प्राइमरी शिक्षक

वर्ष 20 अंक 1-2 जनवरी-अप्रैल, 1995

राष्ट्रीय शैक्षिक अनुसंधान और प्रशिक्षण परिषद्, नई दिल्ली द्वारा प्रकाशित **प्राइमरी शिक्षक** एक त्रैमासिक पत्रिका है ।

इस पत्रिका का उद्देश्य केन्द्रीय सरकार की शिक्षा नीतियों से संबंधित अधिकाधिक जानकारी शिक्षकों और सम्बद्ध प्रशासकों तक पहुंचाना है । इसका उद्देश्य कक्षा में इस्तेमाल की जा सकने वाली सार्थक और सम्बद्ध सामग्री प्रदान करना भी है । भारत के विभिन्न केन्द्रों में चल रहे पाठ्यक्रमों और कार्यक्रमों आदि के बारे में समय-समय पर इसमें सूचनाएं प्रकाशित होती रहती हैं। शिक्षा-जगत मे होने वाली हलचलों पर विचार-विमर्श के लिए यह एक मंच भी प्रदान करती है ।

इस पत्रिका के प्रमुख स्तम्भ हैं—

(1) प्राथमिक शिक्षा से सबंधित शैक्षिक नीतियां।

(2) प्रश्न और उत्तर।

(3) राज्यों के समाचार।

(4) कक्षा में इस्तेमाल की जा सकने वाली सचित्र सामग्री ।

स्कूलों के शिक्षकों की रचनाएं प्रकाशनार्थ आमंत्रित हैं । हर प्रकाशित रचना पर पारिश्रमिक की व्यवस्था है । लेख हिन्दी या अंग्रेजी में कागज़ के एक ओर लिखा होना चाहिए । सुविधा के लिए कृपया रचना की टाइप की गई या साफ-साफ, सुन्दर अक्षरो में लिखी दो प्रतिया भेजे।

प्रधान सपादक : पूरन चन्द

अकादमिक संपादक · सविता वर्मा

मूल्य एक प्रति 4 रुपये ; वार्षिक · 16 रुपये

प्राइमरी शिक्षक

वर्ष 20 | अंक 1-2 | जनवरी-अप्रैल, 1995

इस अंक में

सबके लिए शिक्षा-चुनौतियाँ और समाधान

☐ श्रीकान्त मिश्र

सन् 1991 की जनगणना के अनुसार देश की साक्षरता दर 52.11% है जिसमें पुरुष साक्षरता दर 63.86% तथा महिला साक्षरता दर 39.42% है। आज यहाँ लगभग 48% जनसंख्या निरक्षर है, जबकि विकसित देशों में निरक्षरों का प्रतिशत केवल 2% व सम्पूर्ण संसार में 27.7% है। देश में आज भी 10 करोड़ ऐसे बच्चे हैं जो निर्धनता के कारण स्कूल का दरवाजा तक नहीं देख पाए हैं। प्राथमिक शिक्षा मुफ्त दी जाती है। यदि ये बच्चे प्रवेश ले भी लें तो इनके लिए रोटी कहाँ से आएगी? इनके अभिभावकों के समक्ष पहला सवाल पेट पालने का होता है शिक्षा का नहीं। पहली कक्षा में यदि 100 बच्चे दाखिला लेते हैं तो कक्षा आठ में यह संख्या केवल 23 ही रह जाती है (त्यागी हरीश 1994)। यदि जनसंख्या वृद्धि की दर यही रही और निरक्षरता के खिलाफ हमारा अभियान इसी गति से चलता रहा तो इक्कीसवीं शताब्दी में प्रवेश के समय दुनिया के आधे निरक्षर लोग विश्व के विशालतम प्रजातंत्र वाले देश अर्थात् भारत मे होंगे। यह मन में दहशत पैदा करने वाली स्थिति है, क्योंकि साक्षरता शिक्षा की मूलभूत आवश्यकता है तथा शिक्षा जीवन की आधारशिला है। राष्ट्रीय जीवन का सामाजिक, आर्थिक और राजनीतिक ढाँचा शिक्षा द्वारा ही विकसित होता है।

भारत में सर्वोपरि संसाधन सदा ही उसके नागरिक रहे हैं। क्या देश अपने अधिकांश लोगों को राष्ट्रीय जीवन की मुख्य धारा से अलग रख स्वतंत्र और स्वावलम्बी राष्ट्र के नाते जीवित रह सकता है? क्या कोई आधुनिक, प्रजातान्त्रिक राष्ट्र अज्ञानता एवं निरक्षरता की नींव पर खड़ा किया जा सकता है? नहीं, कदापि नहीं। यदि भारत राष्ट्र को शक्तिशाली और सुदृढ़ लोकतंत्र बनाना है तो हमें निरक्षरता के इस अभिशाप से इसे मुक्त करना होगा। इसी संदर्भ में 5 मई, 1988 को तत्कालीन प्रधानमंत्री स्व. राजीव गांधी ने राष्ट्रीय साक्षरता मिशन के जन अभियान का शुभारम्भ करते समय कहा था कि "साक्षरता के अभाव के कारण शोषण होता है और व्यापक निरक्षरता की समस्या को दूर करने के लिए यदि तत्काल कदम न उठाए गए तो यह समस्या हाथ से निकल जाएगी।" उन्होंने इस बात पर विशेष बल दिया कि इसे संकुचित अर्थों में न लें अपितु साक्षरता को देश के परम्परागत मूल्यों, संस्कृति और विरासत के साथ जोड़ें। उन्होंने सावधान किया था कि यदि साक्षरता को सीमित किया गया और हमारी शानदार विरासत से न जोडा गया तो इससे यह अभियान बहुत कमज़ोर पड़ जाएगा (गांधी राजीव 1988)।

राष्ट्रीय साक्षरता मिशन के अन्तर्गत वर्ष 1995 तक आठ करोड़ लोगों को साक्षर बनाने का प्रयास था। ऐसे ग्रामीण, गरीब लोग जिन्हें स्कूलों में शिक्षा नहीं मिली या जो अपनी पढाई बीच में छोड़ गए, ऐसे तबके जिन तक शिक्षा का लाभ नहीं पहुँचा जैसे महिलाएं, अनुसूचित जाति और जनजाति के लोगों को शिक्षा देना विशेष लक्ष्य रहा। इस कार्यक्रम की विशेष बात थी जन शिक्षण निलयन खोलना। जन शिक्षण निलयन चार पाँच गाँवों के समूह में रहने वाले प्रत्येक पाँच हज़ार लोगों के लिए क्लब हाउस, शिक्षा और मनोरंजन का केन्द्र होगा। यह लक्ष्य निर्धारित किया गया कि प्रत्येक निलयन में साक्षरता कक्षाओं के अतिरिक्त वाचनालय, छोटा पुस्तकालय, साझा रेडियो, टी.वी., और अन्य इलेक्ट्रानिक प्रचार माध्यमों के उपकरण भी होंगे। परियोजना के अनुसार यह कार्यक्रम इतना विस्त त और स्वत पूर्ण है कि इसे पढकर यह लगता है कि जन शिक्षण निलयन माडर्न टेक्नॉलाजी के सहारे भारत भूमि पर

निरक्षरता को समाप्त करके ही रहेगा। इन कार्यक्रमों पर 1978-1990 तक 550 करोड़ रुपयों के खर्च का निर्धारण हुआ। खर्चों से जुडी योजनाओं का क्या हश्र होता है यह हम सभी को विदित है। ज्यों-ज्यों दवा की गई मर्ज बढ़ता गया (आर्थिक अभाव के नाम पर)। भारतीय संविधान द्वारा की गई घोषणा कि सन् 1960 तक 6 से 14 वर्ष की आयु वर्ग के सभी बच्चों के लिए प्राथमिक शिक्षा व्यवस्था कर दी जाएगी और देश की पूरी आबादी को साक्षर बना दिया जाएगा (जौहरी व अन्य, 1969)। इस संकल्प को अभी तक हम पूरा नहीं कर सके हैं और आज विश्व के निरक्षर वयस्कों की सम्पूर्ण संख्या का आधे से अधिक भाग भारत मे निवास करता है।

प्रश्न यह उठता है कि भारत में निरक्षरता की मात्रा अधिक क्यों है? भारत में अंग्रेजी शासन के पूर्व शिक्षा की स्थिति काफी अच्छी थी तथा निरक्षरता का प्रतिशत भी कम था। प्रमाणस्वरूप सन् 1823 में प्रकाशित ईस्ट इंडिया कम्पनी का यह अंश उल्लेखनीय है- "शिक्षा की दृष्टि से संसार के किसी भी अन्य देश में किसानों की दशा इतनी अच्छी नहीं है जितनी ब्रिटिश भारत के अनेक भागों में है। सर टामस मुनरो वर्ड तथा अंग्रेजों द्वारा लिखित अन्य प्रतिवेदनों में यह उपलब्ध है कि मद्रास, बंगाल, मालवा आदि प्रान्तों में ऐसा गांव कोई नहीं था जहां प्राथमिक शिक्षा के निमित्त कम से कम एक विद्यालय न हो।"

भारतीय शिक्षा जन सामान्य में किस रूप में प्रचलित थी इसका उल्लेख हमें उस प्रतिवेदन में भी मिलता है जो भारतेन्दु हरिश्चन्द्र ने सन् 1882 में नियुक्त भारत सरकार के शिक्षा आयोग हन्टर कमीशन के सम्मुख प्रस्तुत किया था। शिक्षा आयोग की प्रश्नावली का उत्तर भारतेन्दु जी ने लगभग 20000 शब्दों में अंग्रेजी भाषा में लिखकर भेजा था। अपने साक्ष्य में भारतेन्दु जी ने प्राचीन परिपाटी की शिक्षण संस्थाओं के बडी संख्या मे होने का उल्लेख किया था। अंग्रेजों ने उस शिक्षा व्यवस्था को नेस्तनाबूद करने का प्रयास करते हुए अंग्रेजी शिक्षा और अंग्रेजी व्यवस्था का जाल फैलाया। उनकी लगभग एक शताब्दी की उपलब्धियों का इतिहास सन् 1904 के शिक्षा नीति सम्बन्धी सरकारी प्रस्ताव के इस अंश से मुखरित होता है "पांच गांवों में से चार बिना किसी स्कूल के हैं, चार लड़कों में से तीन बिना किसी प्रकार की शिक्षा पाए हुए बड़े हो जाते हैं और चालीस में से केवल एक बालिका किसी शिक्षालय में जाती है।" 19वीं शताब्दी के प्रारम्भ की वह स्थिति जब निरक्षरता दर अज्ञात थी, गाँव-गाँव में विद्यालय थे, अंग्रेजी शिक्षा और अंग्रेजी व्यवस्था के समन्वित परिणामस्वरूप 20वीं शताब्दी के प्रारम्भ तक इस स्थिति में आ गई कि केवल 20 प्रतिशत गांवों के स्कूलों में 25 प्रतिशत पढ़ने वाले लड़के और केवल 2.5 प्रतिशत पढ़ने वाली बालिकाएं बच गईं (श्रीवास्तव, 1988)।

इस स्थिति से उबरने के लिए आज़ादी के देशभक्तों ने शिक्षा के प्रसार और प्रचार के लिए अनेक सफल प्रयास किए। 1919 से लेकर 1947 तक की अवधि में भारतीय प्रौढ़ शिक्षा का एक क्रमबद्ध स्वरूप दिखाई पड़ता है। वर्ष 1919 में प्रथम विश्वयुद्ध के बाद भारतीय जनमानस में देश की स्वतंत्रता के प्रति एक नवीन उत्साह ने जन्म लिया। फलस्वरूप भारत में स्वतन्त्रता संग्राम और साक्षरता प्रसार कदम से कदम मिलाकर समानान्तर चलने वाले जन आन्दोलन बन गए। महात्मा गांधी ने 1937 में कहा था "दरअसल मेरी राय में हमारे अफसोस करने और लज्जित होने का कारण निरक्षरता इतना नहीं है जितना कि अज्ञान है। इसलिए वयस्क लोगों की शिक्षा के लिए भी मुझे उनका अज्ञानान्धकार दूर करने का एक ज़बरदस्त कार्यक्रम बनाना चाहिए (महात्मा गांधी, 1937)। यद्यपि भारतीय ग्रामवासी निरक्षर हैं, पर अशिक्षित नहीं हैं। वे एक अर्थ में शिक्षित हैं। उनकी स्मृति विलक्षण है, जिसमें उन्होंने अपने देश के प्राचीन ज्ञान का संचय कर रखा है (जौहरी व अन्य, 1969)।

स्वतंत्र भारत के प्रथम शिक्षामन्त्री मौलाना अबुल कलाम आज़ाद ने प्रौढ़ शिक्षा के स्थान पर 'समाज शिक्षा' शब्द के प्रयोग पर बल दिया (आजाद, 1949)। भारत सरकार ने प्रथम पंचवर्षीय योजना में छोटे पैमाने पर प्रौढ साक्षरता स्कीम का पहले पहल शुभारम्भ किया। दूसरी पंचवर्षीय योजना में इसे 'सामुदायिक विकास कार्यक्रम' में सम्मिलित किया गया। तृतीय पंचवर्षीय योजना में 'समाज शिक्षा' का जोरदार अभियान चलाने की अनुशंसा की गई और उसके तहत 'फन्डामेन्टल एजुकेशन' की संस्थाओं को बढ़ाने के लिए अनुदान पर बल दिया गया। चतुर्थ पंचवर्षीय योजना में एक नूतन नाम उभरा "कार्याधारित साक्षरता" (फन्डामेन्टल लिट्रेसी) जिसमें पढ़ने-लिखने की प्रक्रिया से रहन-सहन के स्तर को ऊँचा बनाने

में तत्काल काम आने वाली जानकारी देने की बात कही गई। पाँचवीं पंचवर्षीय योजना में समाज शिक्षा को प्राथमिक शिक्षा, स्वास्थ्य एवं परिवार कल्याण, कृषि-विस्तार सेवा, सहकारिता आदि से जोड़ा गया। प्रौढ शिक्षा को न्यूनतम आवश्यकता कार्यक्रम में शामिल किया और इसे 20 सूत्रीय कार्यक्रम में 13वें सूत्र का दर्जा दिया गया। बाद में यह नए 20 सूत्रीय कार्यक्रम का 10वां सूत्र बनाया गया। नई शिक्षा नीति में जन आन्दोलनों तथा स्वयंसेवी संगठनों, छात्रो अध्यापकों, नियोजकों, उद्योगो और युवाओं के माध्यम से विशेषकर 15 से 35 वर्ष के आयु वर्ग में निरक्षरता का उन्मूलन करने की व्यवस्था की बात कही गई (नई शिक्षा नीति, 1986) आज यह 'सबके लिए शिक्षा' कार्यक्रम के रूप में उभरकर सामने आई है। साक्षरता की प्रगति हो रही है अथवा प्रतिगति? इसका उत्तर पूर्व दिए गए आँकड़ों से प्राप्त हो जाता है।

जब तक इस समस्या को सही अर्थों में अपने देश के परम्परागत मूल्यों, संस्कृति और विरासत के साथ नहीं जोड़ा जाएगा तब तक इसका समाधान सम्भव नहीं होगा। नई-नई योजनाओं और नए-नए नामकरण से कोई गुणात्मक परिवर्तन आने की संभावना नहीं दिखाई देती है। भारतीय परिवेश, भारत की आवश्यकताओं और भारतीय मान्यताओं के अनुरूप इस कार्यक्रम को मिशनरी भावना से चलाने पर ही सबके लिए शिक्षा के लक्ष्य को प्राप्त किया जा सकता है। "इस कार्यक्रम को एक सांस्कृतिक क्रान्ति के रूप में लेना होगा, जिसमें खर्चे की बात न करके लक्ष्य प्राप्ति की बात करनी होगी" (श्रीवास्तव, 1988)। इसमें गुरुऋण से मुक्त होने के लिए प्रत्येक शिक्षक विद्या दान के लिए स्वयं अपने दायित्व एवं खर्चे पर समाज के कम से कम दो निरक्षर एवं अशिक्षित लोगों को शिक्षित कर अपने जीवन को धन्य करे। अध्यापक प्रशिक्षण संस्थानों में शिक्षक प्रशिक्षणार्थी के लिए तीन निरक्षरों को साक्षर करना अनिवार्य किया जाए। प्राथमिक स्तर से डिग्री स्तर के सभी विषयो के प्रत्येक अध्यापक प्रति वर्ष तीन निरक्षरों को साक्षर बनाएं, यह शर्त अनिवार्य रूप से उनकी सेवा शर्तों में जोडी जाए तथा वास्तविक धरातल पर उनके द्वारा इसे पूरा किया जाए। इस प्रकार से दो वर्षों में ही निश्चित रूप से सम्पूर्ण भारत मे 'सबके लिए शिक्षा' का स्वप्न मूर्त रूप से साकार हो जाएगा। आवश्यकता है मात्र सेवा भावना की न कि पैसे की। 'सबके लिए शिक्षा' की सफलता के लिए सरकार और शिक्षा-विभाग को एक ऐसा प्रेरणात्मक वातावरण स जित करना होगा जो जन-जन के मन में यह भाव भरे कि विद्या ग्रहण करना सबसे बड़ा पुरुषार्थ है। यह मनुष्य के परलोक और इहलोक दोनों को सुधारता है तथा विद्यादान वह महादान है जो मोक्ष प्रदाता है। यह भावना प्रत्येक भारतवासी के अन्त करण में भरने की बस देर है सफलता तो स्वत प्राप्त हो जाएगी। □□

5/45, जोगराज स्ट्रीट, फर्रुखाबाद
उत्तर प्रदेश

सभी के लिए शिक्षा

☐ सुषमा शाह

हमारे देश में प्राचीन समय से ही 'अनेकता में एकता' रही है जो न सिर्फ देश की पहचान का स्वरूप है वरन् अन्य देशों में भी इस एकता से हमारा देश गर्व के साथ अपना मस्तक उठाये खड़ा है। यह बात और है कि समय-समय पर इस एकता को कई विपत्तियों का सामना करना पड़ा, किन्तु फिर भी प्राचीन काल से हमारा देश 'अनेकता में एकता' का बेमिसाल उदाहरण है।

एकता न सिर्फ व्यक्तियों की है, बल्कि यह 'एकता' विभिन्न संस्कृतियों, जातियों, धर्मों, प्रान्तों, समाजों, भाषाओं, विचारों, दर्शनों, परम्पराओं आदि का सम्पुट्ट है। इसी एकता को बनाए रखने हेतु स्वतंत्रता उपरान्त हमारी सरकार ने अत्यधिक प्रयास किए हैं। जहां व्यक्ति को समान अधिकार आदि दिए हैं, वहीं समाज में पुरानी, अनुचित विचारधारा को समयानुसार बदल कर समाज को आधुनिक एव वर्तमान आवश्यकता की पूर्ति हेतु स्वतन्त्रता भी प्रदान की है। इन्हीं अधिकारों एवं स्वतन्त्रताओं में से एक अधिकार "शिक्षा" संबंधी है, जिसे प्राप्त करने का अधिकार तथा स्वतन्त्रता हमारी सरकार ने पूर्ण रूप से देश के प्रत्येक नागरिक को प्रदान की है।

'शिक्षा' व्यक्ति, समाज, देश के विकास हेतु अति आवश्यक है अर्थात् वर्तमान परिवेश में मानव की मूलभूत आवश्यकताओं (रोटी, कपड़ा, मकान) के साथ 'शिक्षा' को भी आवश्यक माना गया है। यही वज़ह है कि आज पूरे विश्व में प्रत्येक देश ने अपनी-अपनी आवश्यकतानुसार 'शिक्षा' को महत्त्व देते हुए विभिन्न शिक्षा-प्रणालियाँ बनाईं हैं। वर्ष 1990 में थाईलैंड मे आयोजित सम्मेलन (सभी के लिए शिक्षा पर) भी इस बात का द्योतक है कि शिक्षा मनुष्य की मूलभूत आवश्यकता है। इसी बात को मद्देनज़र रखते हुए हमारी शिक्षा प्रणाली में भी 'सभी के लिए शिक्षा' का प्रावधान है। 'सभी के लिए शिक्षा' से मूल आशय है कि प्रत्येक व्यक्ति शिक्षा प्राप्त करने का अधिकारी है। इसमें उम्र, लिंग, प्रदेश, जाति आदि किसी भी आधार पर कोई भेद नहीं रखा गया है। यह अलग बात है कि इस 'शिक्षा' को देने का प्रकार चाहे भिन्न हो, अर्थात् अनौपचारिक हो या औपचारिक लेकिन 'शिक्षा' प्राप्त करने का सभी को स्वतन्त्र रूप से अधिकार है।

हमारे देश में तो सभी के लिए शिक्षा "विशेष तौर पर बालिका शिक्षा, प्रौढ़ शिक्षा, बाल श्रमिकों की शिक्षा, जनजाति एवं अनुसूचित जनजातियों की शिक्षा से सम्बन्ध रखती है, जिसे शिक्षाविदों ने अपने-अपने अनुसार परिभाषित किया हैं।"

बालिका शिक्षा

'सभी के लिए शिक्षा' के अन्तर्गत सर्वप्रथम देखा जाए तो हमारे देश में 'बालिका शिक्षा' की अत्यधिक आवश्यकता है। कहा भी जाता है कि शिक्षित माता ही शिक्षित समाज एवं देश का निर्माण कर सकती है। हमारी आज की बालिकाएं भी भावी माताएं हैं। अत वर्तमान परिवेश में शिक्षित नागरिक का निर्माण करना जितना शिक्षक पर निर्भर है उतना ही महिलाओं पर भी।

प्राचीन समय अर्थात् वैदिक युग में नारी शिक्षा को समाज में सम्मान का दर्जा प्राप्त था, जिसके फलस्वरूप समाज के पास गार्गी, मैत्रेयी, याज्ञवल्की, घोषा, लोपामुद्रा जैसी विदुषियाँ थीं। इन विदुषियों से न सिर्फ प्राचीन समय में शिक्षित व्यक्तियों, परिवारों का प्रारम्भ होने लगा था वरन् बडे-बड़े गुरुकुलों का निर्माण भी हुआ था, जो समाज को बिना किसी भेदभाव के समान शिक्षा प्रदान करने के वरिष्ठ केन्द्र थे। कालान्तर में

समाज के अन्दर विसंगतियों के फैलने तथा मुस्लिम काल मे नारी,शिक्षा की उपेक्षा से समाज मे उसे हीन भावना का सामना करना पड़ा। फलस्वरूप बचपन से ही 'शिक्षा' प्राप्त करने का अधिकार बालक के लिए आवश्यक समझा जाने लगा और बालिका के लिए अनावश्यक। आधुनिक काल में भी 'नारी शिक्षा' की स्थिति कमजोर ही रही। स्वतन्त्रता के उपरान्त हमारा देश एक ओर विकास की सीढ़ियों तो चढ़ता गया किन्तु दूसरी ओर बालिका या नारी शिक्षा के अभाव में यहा 'शिशु मृत्यु दर में कमी' छोटे परिवार, समाज तथा व्यक्ति के जीवन सुधार, परिवार के स्वास्थ्य की बेहतरी आदि से वंचित होता गया, जो कि स्वतन्त्र भारत की सर्वप्रथम आवश्यकता थी। लेकिन आधुनिक, भौतिकवादी एवं पाश्चात्य सस्कृति को अपनाने वाले समाज ने पुन 'बालिका शिक्षा' अथवा 'नारी शिक्षा' के महत्त्व को समझा है। एक विकासशील देश की भी यह आवश्यकता रही है कि देश का प्रत्येक नागरिक शिक्षित हो चाहे वह नारी हो या पुरुष।

हमारा देश अधिकतर ग्रामीण क्षेत्र से संबंध रखता है, जहॉ आज भी पुराने रीति-रिवाजो, परम्पराओ, रूढियों से समाज ग्रसित है जिस कारण 'नारी शिक्षा' या 'बालिका शिक्षा' को महत्त्वपूर्ण स्थान प्राप्त नहीं है। इसी वजह से आज हमारे देश में उंगलियो पर गिने जाने वाली पूर्ण रूप से शिक्षित एव आत्मनिर्भर नारियाँ मिलती हैं। शायद ही कोई अपनी बेटी मे बचपन से ही ऐसे मूल्य रोपता है कि वह ब्रडी होकर गार्गी, कस्तूरबा गॉधी, लक्ष्मीबाई या इन्दिरागांधी सरीखी महिला बने। आज शिक्षित समाज भी ज्यादा से ज्यादा अपनी बालिका को डॉक्टर, शिक्षिका, इन्जीनियर बनाने तक सीमित है।

आज हमारे देश मे न सिर्फ ग्रामीण क्षेत्र वरन् शहरी क्षेत्र मे भी 'बालिका शिक्षा' की अत्यधिक आवश्यकता है। गॉव में जहॉ बालिका को शिक्षित करना एक अभिशाप माना जाता है वहॉ तो 'बालिका शिक्षा' का पहुॅचना न सिर्फ नारी के लिए वरन् व्यक्ति, परिवार, समाज तथा देश के विकास हेतु अत्यधिक आवश्यक है। 'बालिका शिक्षा' के अभाव में परिवार तथा घर विभिन्न परिस्थितियों से ग्रसित होता है, जैसे-अशिक्षित महिला के कारण घर में अस्वच्छता, पारिवारिक आवश्यकता की समझ में कमी, आर्थिक परेशानियॉ आदि-आदि। ग्रामीण क्षेत्र मे एक बात और देखने में आती है कि कुछ व्यक्ति बालिका को साक्षर कर देने को ही शिक्षा समझ बैठे हैं, इसी प्रकार बीच में पढ़ाई या स्कूल छोड देना भी 'बालिका शिक्षा' की समस्या है। अधिकतर बालिकाएँ प्राथमिक कक्षा या फिर माध्यमिक और उच्चतर माध्यमिक कक्षा के पूर्व ही पढ़ाई अधूरी छोड देती है अर्थात् स्कूल छोड घर-गृहस्थी में खो जाती हैं,। ऐसी कई समस्याएँ ग्रामीण क्षेत्रों में देखने को मिल जाती हैं। इन्हीं सब मुद्दों को मद्देनजर रखते हुए हमारी सरकार ने 'नारी शिक्षा या बालिका शिक्षा' को शिक्षा प्रणाली में स्थान प्रदान किया तथा कई योजनाएं, परिषद, समितियॉ बनाईं जो 'बालिका शिक्षा' को आसानी से लक्ष्य समूह तक पहुॅचाने मे समर्थ हैं।

वर्ष 1992 में हमारे देश ने कार्ययोजना 1992 के माध्यम से 'बालिका शिक्षा' को और भी सरल बनाते हुए देश के प्रत्येक क्षेत्र मे पहुँचाने का प्रयास किया है। इस योजना द्वारा न सिर्फ नारी अपने अधिकार, महत्त्व को समझी वरन् अपनी समस्याओं के समाधान हेतु भी जाग्रत हुई है। यही वजह है कि आज नारी पुरुष के कन्धे-से-कन्धा मिलाकर हर क्षेत्र में चलने हेतु आगे आई है। शायद ही कोई क्षेत्र अछूता रहा होगा जहाँ नारी ने अपने कदम न रखे हों। किन्तु फिर भी देश की प्रत्येक नारी को आत्मनिर्भर बनाने, आत्म सम्मान प्रदान करने, सम्पूर्ण रूप से सक्षम बनाने हेतु 'बालिका शिक्षा' महत्त्वपूर्ण है खासकर ग्रामीण महिलाओं हेतु तो यह अति महत्त्वपूर्ण है। साथ ही सामाजिक तथा आर्थिक स्तर में सुधार, छोटे परिवार, शिशु मृत्यु-दर मे कमी, परिवार के स्वास्थ्य की बेहतरी, आर्थिक उत्पादकता मे वृद्धि तथा जीवन स्तर मे सुधार हेतु भी आज बालिकाओ या महिलाओ का शिक्षित होना आवश्यक है, क्योंकि इन सभी मुद्दों का सम्बध न सिर्फ नारी के व्यक्तिगत विकास से है वरन् इन्हीं के आधार पर आज घर, समाज एवं देश का विकास निर्भर है।

जनजाति एवं अनुसूचित जनजाति की शिक्षा

"सभी के लिए शिक्षा' जहॉ 'बालिका शिक्षा' को महत्त्व देती है वहीं वह जनजाति एवं अनुसूचित जनजाति की शिक्षा को भी नहीं भूली है। अर्थात् 'सभी के लिए शिक्षा' के अन्तर्गत जनजाति एव अनुसूचित जनजाति वर्ग की शिक्षा का भी प्रावधान

है। हम जानते हैं कि हमारा देश न सिर्फ भौगोलिक दृष्टि से भिन्न है वरन् उन क्षेत्रो में रहने वाले व्यक्ति भी आपस में भिन्नता रखते हैं।

इसी प्रकार हमारे देश में विभिन्न ऐसी जातियॉ भी हैं जो सामान्य जाति एवं वर्ग से भिन्नता रखती हैं। सामान्य वर्ग के समकक्ष न होने से इन्हें हमारी सरकार ने 'जनजाति तथा अनुसूचित जनजाति' के नाम से परिभाषित किया है। इन्हे सामान्य वर्ग से प थक नाम देने का एक कारण यह भी रहा है कि यह वर्ग न सिर्फ जाति एवं क्षेत्र से भिन्न है वरन् शिक्षा, सामाजिक, आर्थिक रूप आदि से भी अविकसित है। अत: देश, समाज आदि में एकरूपता लानें हेतु तथा इन वर्गों को शिक्षा, आर्थिक एवं सामाजिक रूप से विकसित एवं सक्षम कर सामान्य वर्ग के बराबर लाने हेतु हमारी शिक्षा प्रणाली ने 'सभी के लिए शिक्षा' के अन्तर्गत इन वर्गों की शिक्षा का भी समावेश किया है। शिक्षा ही एक ऐसा माध्यम है जो न सिर्फ इन वर्गों को शिक्षित कर सामाजिक एव आर्थिक रूप से सक्षम बनाती है वरन् व्यक्ति, समाज तथा देश में एकरूपता लाते हुए उनका विकास भी करती है।

जनजाति की शिक्षा से आशय है कि देश के उन भौगोलिक क्षेत्रों के व्यक्तियों की शिक्षा जो भौगोलिक कारण से शिक्षा में पिछड़ गए हैं। इसी प्रकार अनुसूचित जनजाति की शिक्षा के अन्तर्गत वे लोग आते हैं जो प्राय: निम्न जाति एवं व्यवसाय आदि से सबंध रखते हैं जैसे - हरिजन, दर्जी, धोबी, कुम्हार, लुहार आदि। हमारी सरकार ने इन वर्गों को ऊपर उठाने हेतु विभिन्न क्षेत्रों में विशेष प्रकार से विभिन्न सुविधाएं प्रदान की हैं जैसे- छात्रवृत्ति, आरक्षण, अनौपचारिक शिक्षा, नौकरियो में आरक्षण व उम्र में छूट आदि।

ये सुविधाएं न सिर्फ नौकरी या उच्च शिक्षा हेतु हैं बल्कि शिक्षा के प्रारम्भिक स्तर से ही दी जा रही हैं। इसका मूल उद्देश्य यही रहा है कि बचपन से ही छात्र का सर्वागीण विकास हो। कहा भी जाता है कि जितनी पक्की नींव होती है उतनी ही मजबूत इमारत का निर्माण होता है। वैसे भी हमारे देश में गरीबी रेखा के नीचे जीवन व्यतीत करने वाली जनता का प्रतिशत अधिक है, जिन्हें शिक्षा लेते हुए जीवन व्यतीत करने हेतु आवश्यक मूलभूत आवश्यकताओं (रोटी, कपडा एवं मकान) की भी अत्यधिक आवश्यकता है। इन्हीं सब मुद्दों को ध्यान में रखते हुए सरकार उपरोक्त सुविधाए प्रदान कर रही है। साथ ही पहाडी एवं जंगली प्रदेशों में विद्यालय, छात्रावास, आश्रम, शालाओ का सचालन किया जा रहा है। छात्रागृह योजना, निवासात्मक शालाएं, खेलकूद परिसर, कन्या शिक्षा परिसर, ग हणी शिक्षा, पुनरध्ययन प्रशिक्षण, शारीरिक शिक्षा, ग्राम स्तरीय व्यवसाय एवं घरेलू उद्योग प्रशिक्षण आदि का संचालन भी किया जा रहा है। इसके अतिरिक्त उपयुक्त वातावरण, पौष्टिक भोजन, चिकित्सा, पाठ्यपुस्तको का नि:शुल्क वितरण आदि सुविधाएं भी सरकार दे रही है। फलस्वरूप देखने में आया है कि इन जातियों का न सिर्फ शैक्षिक स्तर ऊपर उठा है बल्कि सामाजिक स्तर भी ऊपर उठने लगा है। लेकिन जितनी तत्परता से हम इन वर्गों को आगे बढाना या सामान्य वर्ग के समकक्ष लाना चाहते हैं उतनी तत्परता से यह नहीं हो पा रहा है, न ही इन्हे दी जा रही सुविधाओं के सही मात्रा में परिणाम नज़र आ रहे हैं। इसके कई कारण हो सकते हैं जो एक अलग विषय है, किन्तु आज की आवश्यकता को देखते हुए यह और भी आवश्यक है कि न सिर्फ इन जातियों को उपरोक्त सुविधाओं के आधार पर ऊपर उठाना है वरन् इनका सर्वांगीण विकास कर व्यक्ति, समाज, प्रदेश तथा देश की उन्नति एवं विकास में इन वर्गों की समान तथा सक्रिय भागीदारी भी अतिआवश्यक है तभी हमारे 'सभी के लिए शिक्षा' के मूलमंत्र की सार्थकता सफल हो सकती है।

अनौपचारिक शिक्षा

अनौपचारिक शिक्षा पूर्णत. औपचारिक शिक्षा से भिन्न है, अर्थात् अनौपचारिक शिक्षा में औपचारिक शिक्षा की भांति कोई बंधा-बंधाया कठोर ढांचा नहीं होता है, न ही यह शिक्षा मात्र प्रमाण-पत्रो को प्रदान करने तक सीमित है। अनौपचारिक शिक्षा का स्वरूप औपचारिक शिक्षा के विपरीत है। अनौपचारिक शिक्षा का मूल उद्देश्य उन समस्त व्यक्तियो को शिक्षित करना है जो 'औपचारिक शिक्षा' को प्राप्त करने में असमर्थ या किसी कारणवश वंचित हैं।

वैदिक काल से ही अनौपचारिक शिक्षा अपना अस्तित्व शिक्षा के क्षेत्र में जमाए हुए है। हम देखते हैं कि वैदिक काल में घर, परिवार, एवं आश्रमों में ऐसी शिक्षा प्रदान की जाती

थी जो बालक का सर्वांगीण विकास करने में सक्षम होती थी। साथ ही शिक्षा का अनौपचारिक रूप भी प्रचलित था जो व्यक्ति को समस्या का हल करने, समाज एव अपने जीवन के उन्नयन हेतु प्रेरित करती थी। इसके उदाहरण हमें इतिहास में निहित कहानी-किस्सो, राजाओ की समस्या तथा समाधानो से मिलते हैं। लेकिन आज अनौपचारिक शिक्षा का महत्त्व उनके लिए अधिक है जो शिक्षा प्राप्त करने में किसी कारण से पिछड़ गए हैं।

हमारे देश में देखा जाए तो अनौपचारिक शिक्षा मूल रूप से अनुसूचित जातियों, अनुसूचित जनजाति के आदिवासी वर्ग, प्रौढों, बीच में विद्यालय छोडने वाले बच्चों, निरक्षरों, ग्रहकार्य मे रत महिलाओ, बाल श्रमिको, अनवरत श्रम से जूझते कृषको एव मजदूर वर्ग हेतु अति आवश्यक है, क्योंकि यह वर्ग औपचारिक शिक्षा प्राप्त करने से वंचित रहा है और न ही समर्थ है। यही कारण है कि आज इन वर्गो के उत्थान हेतु हमारी सरकार ने विभिन्न योजनाओ एवं विशेषकर शिक्षा-प्रणाली मे 'अनौपचारिक शिक्षा' को स्थान प्रदान किया है। 'अनौपचारिक शिक्षा' किसी कठोर नियम आदि से बंधी न होने से सभी के लिए आसान है। इस प्रकार की शिक्षा में पाठ्यक्रम, समय, स्थान, शिक्षण विधि, शिक्षक, उम्र आदि का बंधन नहीं होता है। व्यक्ति अपनी सुविधा, रुचिनुसार शिक्षा ग्रहण करता है। अनौपचारिक शिक्षा का मूल उद्देश्य बालक एवं व्यक्ति का सर्वांगीण विकास कर देश के विकास में समस्त व्यक्तियो को भागीदार बनाना है, अर्थात् 'अनौपचारिक शिक्षा' का उद्‌देश्य ग्रामीण विकास करना, बालक की अंतर्निहित शक्तियों का विकास करना, उसे संस्कृति का परिचय प्रदान करना, अवकाश काल का सदुपयोग करना, स्वस्थ जीवन की समझ देना, जनसमुदाय चेतना उत्पन्न करना, साक्षर करना, समस्याओ हेतु व्यावहारिक हल प्रदान करने का ज्ञान देना आदि है।

उपरोक्त उद्देश्यो को ध्यान मे रख आज देश में कई 'अनौपचारिक शिक्षा' प्रदान करने के केन्द्र स्थापित किए गए हैं जो किसी भी प्रकार की औपचारिकता को महत्त्वपूर्ण न मानते हुए जरूरतमंद व्यक्तियों को अनौपचारिक रूप से शिक्षित कर उनका सर्वांगीण विकास कर रहे हैं, जिसकी सफलता के परिणाम भी 'अनौपचारिक शिक्षा' की महत्ता को दर्शाते हैं।

निष्कर्षस्वरूप हम कह सकते हैं कि 'सभी के लिए शिक्षा' न सिर्फ बालिका शिक्षा, अनुसूचित जाति एवं अनुसूचित जनजाति से सबध रखती है वरन् उन सभी व्यक्तियों से सबंधित है जिन्हें 'शिक्षा' की आवश्यकता है। अर्थात् शिक्षा के अभाव मे जिनका समयानुरूप सर्वांगीण एवं आवश्यक विकास असम्भव है। यह बात और है कि कहीं इसका (शिक्षा का) स्वरूप औपचारिक है तो कहीं अनौपचारिक लेकिन आज हमारे देश के पूर्ण विकास हेतु 'सभी के लिए शिक्षा' अति आवश्यक है। अन्यथा शिक्षा के अभाव में हम वैज्ञानिक युग एवं 21वीं सदी मे तो पहुँच सकते हैं किन्तु पूर्णरूप से देश को शायद ही विकसित कर सके हैं। □□

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इन्दौर

सामाजिक पर्यावरण अध्ययन का दक्षतामूलक शिक्षण एवं मूल्यांकन

☐ जे.पी. सिंह

सामाजिक पर्यावरण अध्ययन प्राथमिक कक्षाओं के पाठ्यक्रम का एक महत्त्वपूर्ण अंग है। इसके सही शिक्षण पर हमारा सामाजिक व्यवहार, समाज का गठन, स्वरूप और विकास निर्भर है। आज हमारा सामाजिक व्यवहार सही मायने में समाज को विकास की दिशा मे ले जाने लायक नहीं रहा, जिसके लिए समाज का प्रत्येक वर्ग किसी न किसी रूप में अवश्य दोषी है। इसमे हम शिक्षक भी कम दोषी नहीं।

हमारी शिक्षण प्रणाली मे कई कमियां हैं। उनमें से प्रमुख है शिक्षण व्यवस्था का दोष। हम सामाजिक पर्यावरण का शिक्षण भाषा शिक्षण की भाति पाठ्यपुस्तक की मदद से करने लगे हैं। पुस्तक छात्रो के हाथ में दे दी जाती है और उन्हें पाठ बांचने को कह दिया जाता है। बीच-बीच मे आवश्यकता महसूस होने पर समझा दिया जाता है और अन्त में कुछ प्रश्न पूछ लिए जाते हैं। जब हम सामाजिक पर्यावरण के शिक्षण को एक अनुष्ठान मात्र के रूप मे लेंगे तो स्थिति ऐसी ही बनेगी। इसके लिए दोषी कौन है? हम ऐसा क्यों करते हैं? हम सामाजिक पर्यावरण का उपयोग सामाजिक परिवेश के अध्यापन के लिये क्यो नहीं करते? क्या समय की कमी है? क्या हम छात्र-छात्राओं को कक्षा से बाहर ले जाने मे असुरक्षा की जिम्मेदारी से भयग्रस्त हैं? आइए, इन प्रश्नो पर विचार करें-

- ☐ हम अपने परिवेश का उपयोग सामाजिक पर्यावरण के शिक्षण मे कैसे कर सकते हैं?
- ☐ पाठ्यपुस्तक में दी गई किन-किन विषय वस्तुओं का अध्ययन सामाजिक परिवेश में किया जा सकता है?
- ☐ मौसम के अनुसार कपडों की आवश्यकता, मकान की आवश्यकता, सडक पर चलने के नियमों की जानकारी सार्वजनिक सुविधाओ के उपयोग, पडोसियों के व्यवसाय, दिशाओं की जानकारी आदि के अध्ययन के लिए हम पर्यावरण का उपयोग कैसे कर सकते हैं?
- ☐ अगर हम छात्र-छात्राओं को कक्षा के बाहर वास्तविक परिवेश में उपर्युक्त विषयो का अध्ययन कराते हैं तो ज्ञान अर्जन मे क्या फर्क पडेगा?
- ☐ सामाजिक पर्यावरण का उपयोग सामाजिक अध्ययन में क्यो नहीं किया जाता है?
- ☐ अगर इस संबध में कोई कठिनाई है तो उसे कैसे दूर किया जा सकता है?

न्यूनतम दक्षताएँ : राष्ट्रीय अपेक्षाएँ

राष्ट्रीय स्तर पर प्राथमिक कक्षाओं के लिए पर्यावरण अध्ययन के अन्तर्गत दस दक्षताओं को सम्मिलित किया गया है। ये दक्षताएँ विकास के ज्ञानात्मक, भावात्मक एव क्रियात्मक पक्षों से संबंधित हैं। इनमे से प्रथम दक्षता प्राकृतिक एवं सामाजिक परिवेश के संदर्भ में व्यक्ति की भलाई से है। उसके बाद की पांच दक्षताएँ समाज के विभिन्न पहलुओं से संबंधित हैं, और ये निम्नलिखित हैं-

छात्र द्वारा

(1) अपने सामाजिक-नागरिक परिवेश के महत्त्वपूर्ण पहलुओं की छानबीन करना और उनकी कार्य विधि को समझना।

(2) कार्य में लगे विभिन्न लोगों के बारे मे जानना और कार्य जगत के महत्त्व की सराहना करना।

(3) मनुष्य और उनके परिवेश के बीच स्थानीय एव परस्पर प्रभाव डालने वाले संबंध को समझना और उसकी व्याख्या करना।

(4) मानव के अतीत एवं वर्तमान मे संबंध देखना और अतीत को सही परिप्रेक्ष्य में समझना।

(5) सामान्य लेकिन सरल और आसानी से दिखाई देने वाली सामाजिक, आर्थिक परिस्थितियो एवं समस्याओं को समझना, उनका विश्लेषण करना और अपने अनुभव के स्तर पर उनका हल खोजना।

'न्यूनतम अधिगम स्तर' मे लिखित दक्षताओं का स्वरूप, ध्यान से देखे तो व्यवहारमूलक अधिक है, पुस्तकीय नहीं। यही इनकी विशेषता है कि ये शिक्षक से बच्चो द्वारा पुस्तक-वाचन कराने की बजाए क्रिया करवाने की अपेक्षा करती हैं। उदाहरणस्वरूप न्यूनतम अधिगम स्तर के एक सोपान पर दृष्टि डाले। मनुष्य और उसके परिवेश के बीच स्थानीय एवं परस्पर प्रभाव डालने वाले संबंधो को समझने तथा उसकी व्याख्या करने के लिए कक्षा एक से पॉच तक की विषय-वस्तु के एक अंग का सोपान इस प्रकार बनता है–

कक्षा 5: ग्लोब के प्रमुख स्थल भाग/जलभाग/ध्रुव/भूमध्य रेखा को पहचानना।

कक्षा 4: भारत के विभिन्न प्रदेशों/केन्द्र शासित प्रदेशों के नाम/स्थिति बताना।

कक्षा 3: कक्षा के कमरे/विद्यालय/परिवेश के भाग का रेखा चित्र बनाना।

कक्षा 2: सूर्योदय एवं सूर्यास्त की सहायता से दिशाओं को पहचानना।

कक्षा 1: स्थानीय धरातलीय विशेषताएँ- नदी, तालाब, पहाडी आदि को पहचानना।

स्थानीय सीमाएं : संभव दक्षताएं

भौगोलिक विविधताओं से भरपूर भारत में कुछ गांव नदी के किनारे स्थित हैं, तो कुछ तालाबो के, कुछ पहाडों की तलहटी मे, तो कुछ टीलों पर। क्षेत्रीय परिवेश को ध्यान में रखते हुए धरातलीय विशेषताओ का उद्धरण एवं अवलोकन-अध्ययन कराया जाना चाहिए। कभी-कभी सूर्य ठीक पूर्व में उदय होता है और ठीक पश्चिम मे अस्त, पर वर्ष के बारहों महीने ऐसा नहीं होता। इसका अवलोकन कराना चाहिए। कहीं विद्यालय पक्के भवन मे लगते हैं तो कहीं कच्चे भवन में। कहीं का परिवेश नगरीय होता है तो कही का ग्रामीण, जगलो के बीच। इसी प्रकार प्रदेशो के नाम और स्थिति बदलते हैं। ग्लोब (पृथ्वी का प्रारूप) पर कुछ काल्पनिक और कुछ वास्तविक चीजे प्रदर्शित की गई होती हैं। स्थिति एवं उसके प्रभाव को सही ढग से समझने के लिए ग्लोब का अध्ययन आवश्यक है।

यह तो स्थानीय विशेषताओ की बात है। इससे 'अध्ययन' मे स्थानीय पर्यावरण का पुट आता है, कथ्य में भिन्नता आती है परन्तु दक्षता का स्वरूप वैसा ही बना रहता है। किंतु कहीं-कहीं आपको स्थानीय स्तर पर बच्चो के सीखने की सीमाए भी दिखाई देगी। जिनसे दक्षता का स्तर बदलने की जरूरत हो सकती है। यथा, सोपान में कक्षा 4 के लिए लिखित दक्षता को देखे। प्रदेशो व केन्द्र शासित प्रदेशों की कुल संख्या आज 32 है।

सोचें, 80 प्रतिशत दक्षता का आदर्श आपके छात्रो द्वारा किसी सीमा तक संभव है? बच्चे नाम और स्थिति पुस्तक से रटेंगे या नक्शे में देखकर बताएंगे?

ऐसे संदर्भ में दक्षता का स्वरूप और स्तर शिक्षक को अपने छात्रों की योग्यता के संदर्भ में निर्धारित करना आवश्यक है।

सहायक सामग्री : राष्ट्रीय अभियान

उक्त विवेचन से स्पष्ट है कि सामाजिक पर्यावरण के अध्ययन के लिए अधिकांश 'अध्ययन-सामग्री' (पाठ्य सामग्री नहीं) स्थानीय परिवेश से ही चुनी जाएगी। जब गाँव से आगे का भूगोल सीखेंगे तो मानचित्र और ग्लोब की आवश्यकता होगी। इस हेतु 'श्यामपट अभियान' के अंतर्गत ग्लोब और प्रदेश, भारत तथा विश्व के तीन मानचित्र हर विद्यालय में पहुचाए जा रहे हैं।

दक्षतामूलक शिक्षण

(क) पाठ्यपुस्तक साधन है, सर्वस्व नहीं – किसी भी उद्देश्य

की प्राप्ति के लिए पाठ्य सामग्री की आवश्यकता होती है। पाठ्यपुस्तक ऐसी ही एक सामग्री है। यह शिक्षक के लिए शिक्षण का आधार है और बच्चों के लिए घर पर पढने की पाठ्यवस्तु। शिक्षक को इसका उपयोग ज्ञान के साधन एवं निर्देशिका के रूप में ही करना चाहिए। किसी भी स्थिति में इसका कक्षा में वाचन-अभ्यास नहीं करना चाहिए। ऐसा करनें से भाषा शिक्षण और सामाजिक पर्यावरण शिक्षण मे कोई अन्तर नहीं रह जाता। शिक्षक पाठ्यपुस्तक में दी गई पाठ्यसामग्री का उपयोग करे, पर वाचन न कराएँ। पढ़ने का काम बच्चों को घर के लिए दिया जा सकता है।

वास्तव में पर्यावरण अध्ययन की पाठ्यपुस्तक में पढने की 'सामग्री' कम होती है, अध्ययन और क्रियाओं के लिए निर्देश अधिक होते हैं। जो धारणाएँ बच्चे को घर, गली, गाव, खेत-खलिहान, विद्यालय, कारखाने, बैंक, पंचायत के अवलोकन से सिखाई जा सकती हैं, उनके लिए तो पाठ्यपुस्तक बनाई ही नहीं जाती। इनके लिए तो पुस्तक में अवलोकन या क्रिया करने के निर्देश ही होते हैं।

(ख) बच्चे क्रिया, अनुभव और अभ्यास से सीखते हैं – इस बात को बार-बार रेखांकित करने की आवश्यकता नहीं है कि पर्यावरण का वास्तविक अध्ययन परिवेश मे प्रत्यक्ष अनुभवों और क्रियाओ द्वारा ही होगा। अनेक क्रियाएं गाँव या मोहल्ले के परिवेश में की जा सकती हैं। विभिन्न प्रकार के मकानों, जानवरों, पशु-पक्षियों का अवलोकन कराया जा सकता है और उनसे तुलना कराई जा सकती है। सार्वजनिक सुविधाओं की जानकारी के लिए अस्पताल, पुलिस थाना, डाकघर, कचहरी, बैंक आदि स्थानों पर ले जाया जा सकता है। सड़क यातायात के प्रमुख चिन्हों को वास्तविक स्थानो पर दिखाया जा सकता है, चर्चा की जा सकती है। कार्य मे लगे विभिन्न लोगो की जानकारी के लिए अपने पास-पड़ोस में होने वाले व्यवसायो का अवलोकन कराया जा सकता है। ऐसे लोगों को कक्षा में बुलाकर बातचीत की जा सकती है। राष्ट्रीय त्यौहार तथा समारोह परिवेश के अनुसार मनाये जा सकते हैं या दिखाये जा सकते हैं। दिशा-ज्ञान तथा मानचित्र के अध्ययन के लिए अवलोकन, क्रिया और अभ्यास की आवश्यकता होती है। क्रिया, अनुभव और अभ्यास पर अधिक समय देने की आवश्यकता होती है। ऐसा करने पर ही बच्चे सीखी गई चीजें व्यवहार में ला सकेंगे।

दक्षता मूल्यांकन

ध्यान रहे हम प्राथमिक कक्षाओ में सामाजिक पर्यावरण विषय से संबंधित दक्षता मूल्यांकन की बात कर रहे है। इनके लिए लिखित मूल्यांकन कम से कम शुरू की तीन कक्षाओ में तो नहीं ही होना चाहिए। यह मूल्याकन मौखिक परीक्षण के द्वारा ही हो। उदाहरणस्वरूप व्यवसाय की जानकारी के मूल्यांकन के लिए व्यवसायों के नाम बताने को कहा जाए। व्यवसाय के चित्र को पहचानने के लिए कहा जाए। शरीर के अगों की जानकारी के मूल्यांकन के लिए अगो के कार्य पूछे जाएं तथा उन्हे खाद्य फसलों के नमूने इकट्ठा करने को कहा जाए। व्यवहार में हुए परिवर्तन का परीक्षण किया जाए। कुछ मूल्याकन खेल खेलते समय भी किए जा सकते हैं। यदि यातायात के नियम का मूल्यांकन करना हो तो 'सडक-सड़क' का पात्र अभिनय कराया जा सकता है। कक्षा चार और पाँच मे मूल्यांकन के प्रश्न कुछ लिखित और कुछ मौखिक हो सकते हैं। सामाजिक पर्यावरण के मूल्यांकन को भाषा पढ़ने, लिखने का मूल्यांकन न बनाया जाए। बच्चो की रुचि को प्रोत्साहित किया जाए। मूल्यांकन की प्रक्रिया सतत् चलती रहे, वार्षिक या अर्धवार्षिक न हो। मूल्यांकन में छात्र विशेष की रुचि और प्रगति पर अधिक ध्यान दिया जाए। सूचनाओ और तथ्यों को याद करने का मूल्यांकन करना हो तो प्रश्न मच का उपयोग रोचक होगा। विश्लेषण-विवेचन की दक्षता का विकास जॉचने के लिए बच्चों द्वारा एकत्रित और तैयार की गई सामग्री का मूल्यांकन सार्थक होगा।

दक्षता प्रतिबद्ध शिक्षण हेतु कुछ उदाहरण

उदाहरण-1

दक्षता – मनुष्य और उसके परिवेश के बीच स्थानीय एवं परस्पर प्रभाव डालने वाले संबंध को समझने और उसकी व्याख्या करने के लिए दिशाओं की पहचान।

सामग्री – भारत का मानचित्र

क्रिया-कलाप – शिक्षार्थी अपने घर और विद्यालय के

आस-पास की चीजों को जानते हैं। शिक्षक विद्यालय के आस-पास की चीजों को जानते हैं। शिक्षक विद्यालय के आस-पास के भवनों तथा अन्य महत्त्वपूर्ण चीजो के रेखाचित्र श्यामपट पर बनाएँ (चित्र 1)

चित्रा 1

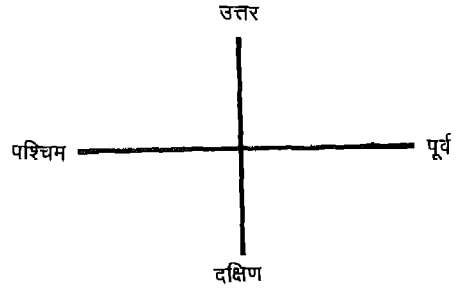
रेखाचित्र की ओर शिक्षार्थियों का ध्यान आकर्षित कर विभिन्न भवनों/चीजों की स्थिति का अध्ययन करने को कहें। कौन-सा भवन/चीज क्या है, शिक्षार्थयो को पहचानने को कहें। उन चीजों को ऊपर, नीचे, दाएँ, बाएँ के रूप मे बताने को कहें। शिक्षक शिक्षार्थियों से निम्न प्रकार के प्रश्न पूछें-

- ☐ विद्यालय कहाँ है?
- ☐ इसके दाहिने क्या है?
- ☐ इसके नीचे क्या है?
- ☐ इसके ऊपर क्या है?
- ☐ नलकूप कहाँ है?
- ☐ पेड़ कहाँ है?

शिक्षार्थी इन प्रश्नों का उत्तर ऊपर, नीचे, दाहिने, मध्य, दाहिनी मध्य, दाहिने-नीचे, बाएॅ-नीचे, मध्य-नीचे आदि शब्दों की सहायता से देंगे।

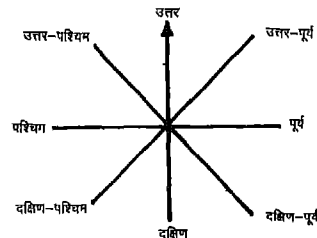
इसके बाद शिक्षक बताएँ कि दाहिनी ओर पूर्व है बायीं ओर पश्चिम।

इससे सबंधित प्रश्न अब इस प्रकार करें-

- ☐ ग्राम पंचायत भवन के पूर्व में क्या-क्या है?
- ☐ नलकूप के पूर्व में क्या-क्या है?
- ☐ खेल के मैदान के पश्चिम में क्या है?
- ☐ विद्यालय के पश्चिम में क्या है?
- ☐ इसी प्रकार उत्तर-दक्षिण (ऊपर-नीचे) की पहचान कराएँ।
- ☐ शिक्षक इस प्रकार का दिशा चिन्ह (चित्र 2) रेखाचित्र के एक कोने में बनाए।

चित्र 2

इसके बाद शिक्षार्थियों को समझाएं। बाद में निम्न प्रकार के प्रश्न करें।

- ☐ विद्यालय के उत्तर मे क्या है?
- ☐ पेड़ के पश्चिम में क्या है?
- ☐ पेड़ से चौपाल किस दिशा में है?
- ☐ नलकूप ग्राम पंचायत भवन के उत्तर या दक्षिण में स्थित है?

इस दौरान एक स्थिति ऐसी आएगी कि बच्चों में मतभेद होगा कि नलकूप विद्यालय के बाए (पश्चिम में) है या नीचे (दक्षिण में)। दोनों सही हैं। यह समझाने के लिए अष्ट दिशा-सूचक (चित्र-3) श्यामपट पर बनाएं और सभी शिक्षार्थियों को दिशा-सूचक चित्र बनाने का निर्देश दें और वे इसे अपनी कॉपी में बनाएं।

चित्र 3

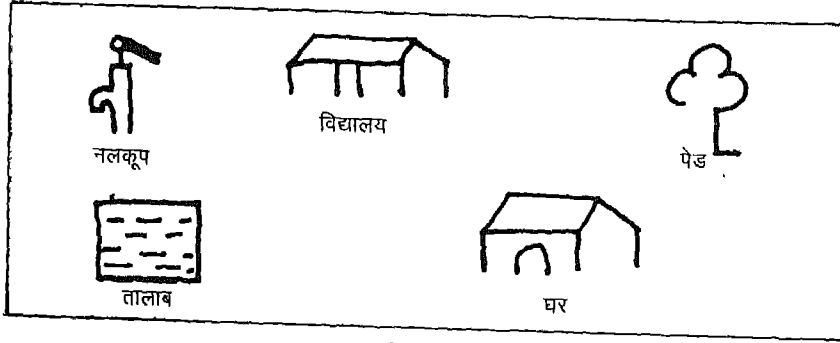
- ☐ शिक्षक विद्यालय के मैदान में भी इस दिशा-सूचक चित्र को खुदवाएं और चूने से रँगवाएँ। कुछ शिक्षार्थियों को दिशा-सूचक चित्र पर उत्तर की ओर मुंह करके खड़ा करवाएं और विभिन्न दिशाओं का अवलोकन कराएं।
- ☐ शिक्षार्थियों को सप्ताह के एक या दो दिन भिन्न दिशाओ मे ले जाएं और जो-जो चीजें रास्ते में मिले उनकी सूची बनवाएं और अध्ययन करवाएँ।
- ☐ इन अभ्यासो के बाद प्रदेश या देश के मानचित्र में शिक्षार्थियों को विभिन्न चीजों का अवलोकन करने को कहें। शिक्षक शिक्षार्थियों की स्थिति मानचित्र में बताएँ और निम्न प्रश्न पूछें-
- ☐ आपके गाव/जिले के दाहिनी ओर क्या-क्या है?
- ☐ उनके नाम लिखें।
- ☐ ये कौन-सी दिशा में हुए?
- ☐ उन नामो मे से राज्यो, शहरो, नदियों के नाम छाट कर अलग-अलग लिखें।

- ☐ मध्य प्रदेश के पूर्व के दो राज्यो के नाम बताएँ?
- ☐ मध्य प्रदेश के उत्तर पूर्व में कौन-सा राज्य है?
- ☐ अरब सागर मध्य प्रदेश से किस दिशा मे है?
- ☐ मध्य प्रदेश की सीमा से लगे राज्य कौन-कौन से हैं।

उदाहरण - 2

दक्षता – मनुष्य और उसके परिवेश के बीच स्थानीय एवं परस्पर प्रभाव डालने वाले संबध को समझने एवं उसकी व्याख्या करने के लिए अक्षांश और देशान्तर रेखाओ की उपयोगिता जानना और ग्लोब पर इन्हे पहचानना।

सामग्री – ग्लोब

क्रिया कलाप – शिक्षार्थी विद्यालय और उसके पास की चीजे जानते हैं। श्यामपट पर शिक्षार्थियो के विद्यालय के निकट स्थित चीजो का एक रेखाचित्र (चित्र 4) बनाएँगे, और शिक्षार्थियो को अपनी-अपनी कापियों में बनाने को कहेंगे।

चित्र 4

- ☐ जब आप उत्तर की ओर मुंह करके खड़े होते हैं तो कौन-सी दिशा दाहिनी ओर, कौन-सी दिशा बाई ओर होती है?

इसी प्रकार के अभ्यास अवलोकन विधि द्वारा अन्य दिशाओ के लिए भी कराएँ।

मूल्यांकन – चाहे तो कक्षा को कई समूहो मे बांट लें। विभिन्न समूहों से इस प्रकार के प्रश्न करें। सही उत्तर के लिए अंक दे।

विभिन्न शिक्षार्थी उन्हें अपनी-अपनी कापियों में विभिन्न ढग से कुछ इस प्रकार बनाएँगे (चित्र 5)।

शिक्षक श्यामपट पर अब कुछ खडी और पडी रेखाएं खीचेंगे (चित्र 6) और शिक्षार्थियो को पुन. अपनी-अपनी कॉपियों में बनाने को कहेगे।

खडी और पडी रेखाओं के कारण शिक्षार्थी पहले की तुलना में उपर्युक्त चीजो की स्थिति ठीक-ठीक बनाएँगे।

शिक्षक शिक्षार्थियो से श्यामपट पर बने रेखाचित्र पर आधारित निम्न प्रकार के प्रश्न पूछे-

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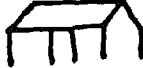
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स

चित्र 5

चित्र 6

- ☐ नलकूप किस खाने मे है?
- ☐ तालाब और पेड़ किस-किस खाने में हैं?
- ☐ कौन-कौन से खाने खाली हैं?

अब शिक्षक इन खानों की सही स्थिति के लिए इस प्रकार के नम्बर विभिन्न खानो के लिए दे सकते हैं (चित्र 7)।

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चित्र 7

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चित्र 7

वे शिक्षार्थियों से पूछेंगे कि इन नम्बरों को और किन-किन तरीकों से लिखा जा सकता है। कुछ तरीकें इस प्रकार हो सकते हैं – (ब और स)।

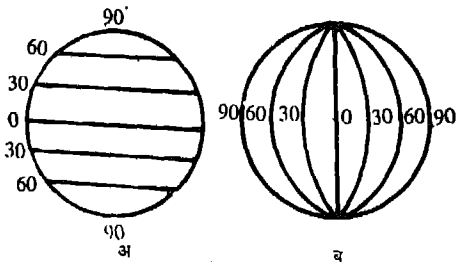
अगर खानों की संख्या बढ़ानी हो तो उपर्युक्त तीन रेखाचित्रों में से कौन-सा रेखाचित्र सबसे अधिक उपयुक्त होगा?

यदि उन खानों में कुछ दिखाना भी हो तो?

शिक्षक इन खानों में संख्या लिखने के तरीकों पर चर्चा कराएं, सही निष्कर्ष के लिए यह अति आवश्यक है।

शिक्षक शिक्षार्थियों से तरह-तरह के प्रश्न पूछने के बाद इस निष्कर्ष पर पहुंचेंगे कि रेखाचित्र (स) में दर्शाई गई तकनीक किस क्षेत्र को अनेक खंडों में बांटने की सबसे अच्छी तकनीक है।

उपर्युक्त क्रियाओं के बाद ही शिक्षक शिक्षार्थियों को ग्लोब पर अंकित विभिन्न रेखाओं का अवलोकन कराएँ। शिक्षक बताएँ कि ग्लोब हमारी पृथ्वी का मॉडल है। शिक्षार्थी विभिन्न चीजों के मॉडल देख चुके हैं। शिक्षक शिक्षार्थियों को ग्लोब उलट-पलट कर, घुमा-फिरा कर देखने दें।

शिक्षक ग्लोब पर अंकित रेखाओं को बडे रूप में श्यामपट पर बनाऍं (चित्र 8)। शिक्षार्थियों से भी उसी प्रकार का रेखा चित्र बनवाएँ।

चित्र 8

शिक्षार्थी दिशाओं के बारे में पढ चुके हैं। इन रेखाओं के आधार पर शिक्षक निम्न प्रकार के प्रश्न पूछें-

- ☐ पड़ी रेखाएं किधर से किधर को जाती हैं?
- ☐ रेखा चित्र (अ) में ये कितनी हैं?
- ☐ 30° की पडी रेखाएँ कितनी हैं?
- ☐ पडी रेखाओं की लंबाई एकसमान है या छोटी-बड़ी?
- ☐ किस दिशा में छोटी होती है?
- ☐ ऐसी रेखाओं को गणित मे क्या कहते हैं? (समानांतर)
- ☐ खड़ी रेखाओं की दिशा क्या है?
- ☐ खड़ी रेखाएं कहां मिलती हैं?
- ☐ खड़ी रेखाएं भी क्या छोटी-बड़ी हैं? समानांतर हैं?
- ☐ रेखाचित्र (ब) में कितनी रेखाएं दिख रही हैं?
- ☐ चित्र की दूसरी तरफ कितनी रेखाए होनी चाहिए?
- ☐ अगर 1° के अंतर से पड़ी रेखाएं खींची जाएं तो ये कुल कितनी होंगी?

शिक्षक शिक्षार्थियों को इन रेखाओं को ग्लोब पर पुन: अवलोकन कराएँ। उनकी जिज्ञासा को उत्तर देकर शांत करें। उन्हें बताएं कि ये रेखाएँ काल्पनिक हैं, धरती पर नहीं। इन रेखाओं की उपयोगिता समझाएं, इनके नाम बताए। भारत के मानचित्र पर इन रेखाओं को पहचानने को कहें। ग्लोब पर भारत को ढूंढें। अपनी जानकारी के शहरों/देशों को ढूंढें। भारत की राजधानी को ग्लोब पर ढूंढें। उसे भारत के मानचित्र पर ढूंढने को कहें। शिक्षक उनकी सहायता करें।

मूल्यांकन

- ☐ कर्क रेखा कहाँ है?
- ☐ दक्षिण हिम रेखा की स्थिति ग्लोब पर दिखाएं।
- ☐ उत्तरी ध्रुव पर स्थल है या महासागर?
- ☐ शून्य डिग्री की देशान्तर रेखा किन-किन महाद्वीपों से गुजरती है?
- ☐ 180° की देशान्तर रेखा कहा से होकर जाती है, ग्लोब पर बताएं।
- ☐ मूल्यांकन को खेल विधि से कराने के लिए कक्षा को दो भागों में बाँटें। शिक्षक प्रश्न करें और दोनों समूह के शिक्षार्थी उत्तर दें। सही उत्तर के लिए अंक दिए जाएँ। प्रश्नों की संख्या दस-दस हो सकती है, और वे निम्न प्रकार के हो सकते हैं-
- ☐ जहां शून्य डिग्री अक्षांश और शून्य डिग्री देशान्तर रेखाएँ मिलती हैं, वहाँ थल है या जल है?
- ☐ 25° उत्तर अक्षांश और 25° पूर्व देशान्तर रेखाएं किन-किन देशों से होकर जाती हैं?
- ☐ 30° दक्षिण अक्षांश और 30° पश्चिम देशान्तर रेखाओं पर कौन-सा सागर या देश स्थित है?
- ☐ मास्को और ढाका किन-किन अक्षांश रेखाओं पर

स्थित हैं?

- शिक्षक इस प्रकार के अनेक प्रश्न बना सकते हैं।

आत्मनिर्णय

आपने उपर्युक्त पाठ तथा इससे संबंधित दक्षता प्रतिबद्ध शिक्षण हेतु कुछ उदाहरणों का अध्ययन किया। आपको विषय के शिक्षण एवं उसके मूल्यांकन संबंधी सुझाव एवं क्रियाएं कैसी लगीं? क्या आप इनका उपयोग परिवेश में आसानी से कर सकते हैं? यदि हाँ, तो कक्षा मे इनका उपयोग कीजिए और यदि नहीं, तो पर्यावरण के समुचित उपयोग हेतु और कौन-कौन सी क्रियाएं हो सकती हैं, इस पर विचार कीजिए। क्या आप समझते हैं कि उपर्युक्त क्रियाओं से छात्र केन्द्रित शिक्षा को बल मिलेगा? यदि हाँ, तो शिक्षण में उन्हें अपनाइए और सामाजिक पर्यावरण अध्ययन को व्यावहारिक बनाइए।

□□

प्रवाचक
क्षेत्रीय शिक्षा महाविद्यालय
भोपाल

बालक के विकास में शिक्षक की भूमिका

□ मधुबाला पारीक

बालक मे अनुकरण करने की प्रवृत्ति बेहद होती है। वह सदैव दूसरों को देखकर स्वयं भी वैसा ही करके खुश होता है। अपने से बड़ों के रहन-सहन व आदतों की नकल करता है। एक शिशु, छात्र जितना ज्ञानवर्द्धन पुस्तकें पढ़कर करता है उससे कहीं अधिक वह अपने आसपास के माहौल, लोगों के रहन-सहन, मित्र मडली, माता-पिता व गुरूजनो के व्यवहार व आदतो को देखकर सीखता है। उनकी गतिविधियों व दैनिक क्रियाकलापों को सीधे-सीधे जीवन में उतारता है। यही उसके बचपन, और भोलेपन का परिचय है, उसकी सहजता व स्वाभाविकता का प्रदर्शन व अनुकरण है। वह सजीव प्रतीकों एवं निर्जीव वस्तुओं से भी बहुत कुछ ग्रहण करता है। विज्ञान की प्राप्ति व तरक्की की अनुपम भेंट टेलीविजन पर प्रसारित होने वाले विविध धारावाहिकों को देखकर वह बहुत प्रभावित होता है। कम्प्यूटर ने तो बालक की दिनचर्या में रौनक व मनोरंजकता भर दी है।

आज की पीढ़ी के बालक उपदेश सुनना कतई पसंद नहीं करते। नैतिक मूल्यों की तासीर की चाशनी को जीवनोपयोगी शरबत बनाकर समय के गिलास में उन्मादित सीसों के संग पिलाने की कितनी भी कोशिशें कर लीजिए, वह इन सबको देखना तक पसंद नहीं करता, गले से नीचे दो घूंट उतारना तो बहुत आगे की स्थिति है। बालक स्वयं अच्छी पुस्तकें पढ़कर उनके छिपे भावार्थ को महसूस कर अपने जीवन में उतारना पसद करता है और किस्से-कहानियॉ पढना, सुनना उसे बहुत प्रिय हैं। खेल खेलना उसकी रुचि है, जरूरत है। खेल-खेल मे भी बहुत से शिष्टाचार उसकी दिनचर्या मे संस्थापित हो सकते हैं मगर वह भाषण, व्याख्यान या उपदेश सुनकर अपने जीवन मे मूल्यों को उतारने का प्रयास नहीं करता। उपदेश की चिलम से उसे नफरत है, भाषण की भंग में उसे दिलचस्पी नहीं है, व्याख्यान के सैलाब पर उसे शिक्षण की नौका-विहार यथार्थ के सागर मे आनंदित नहीं करती है। हमें उसकी रुचि, रुझान, स्तर, क्षमता व मनोवृत्ति को समझना होगा। बाल मनोविज्ञान के सुरभित दायरो की तह से गुजरना होगा। उसी के अनुकूल आचरण करना होगा, उसे सतुलित व पौष्टिक आहार के साथ सीखने-सिखाने की प्रक्रिया से जोडना होगा, वरना वह किसी न किसी कमी से किसी न किसी बीमारी का अथवा संवेगात्मक भावों जैसे क्रोध, निराशा, दुख, ग्लानि, झूठ का शिकार हो जायेगा जिसके जिम्मेदार हम सब होंगे और समय हमें कभी क्षमा नहीं करेगा। हमें मन, वचन, कर्म से ऐसा कोई कार्य नहीं करना है जिससे बालक में नकारात्मक सोच पनपे, उसके दिल मे कुंठा पनपे, उसमे शिक्षक व विद्यालय के प्रति वितृष्णा के भाव जगें, उसकी मनोवृत्ति पलायनवादी बने, उसमें माता-पिता व अन्य बडों के लिए निरादर के भाव जगें। एक सफल शिक्षक हमेशा रचनात्मक क्रियाकलापों से जुडा रहता है और अपने छात्र में सकारात्मक व व्यावहारिक सोच का प्रश्रय देता है। विद्यार्थी व शिक्षक का रिश्ता अनूठा होता है। बालक के लिए शिक्षक कबीर के शब्दों में गोविंद से भी बडा होता है, पूजनीय होता है क्योंकि वही उसे अज्ञान के अंधेरे से ज्ञान के उजाले के क्षितिज की राह दिखलाता है। ज्ञान रश्मि के सरोवर से मोक्ष का मार्ग प्रशस्त करता है। एक प्रबुद्ध शिक्षक अपने होनहार छात्र को एक-एक अक्षर समझाकर उसमें पढने की रुचि जगाता है। सदगुणों व सही राह पर चलने की प्रेरणा देता है। अंगुली के बीच पेंसिल पकड़ाकर उसे अक्षर लिखना सिखाता है। उसका त्याग, समर्पण, संयोजन, बुद्धि-चातुर्य छात्र चहुंमुखी विकास में सहायक बनता है।

बालक में नैतिक मूल्यो को स्थापित करने मे, उसके व्यक्तित्व के संतुलित विकास मे, तथा उसे एक अनुशासित,

कर्मठ, कर्तव्यनिष्ठ शिष्य बनाने में एक शिक्षक की आदर्श भूमिका व बौद्धिक क्षमता बहुत उपयोगी वजूद रखती है। उदाहरण के लिए रामचरितमानस के अमर रचयिता गोस्वामी तुलसीदास को संत स्वामी नरहरि दास ने तथा छत्रपति शिवाजी को समर्थ गुरु रामदास ने अपने ज्ञान के सरोकारो, समझ के अनुबंधों व कौशल के सोपानों से ख्यातिलब्ध व्यक्तित्व मे परिणित कर दिया था। ऋषि संदीपन ने श्रीकृष्ण व सुदामा को भिन्नता व सच्ची दोस्ती का अनुकरणीय पाठ सिखाया था। वर्तमान समय मे परिस्थितियों के अनुकूल आचरण करके सीखने-सिखाने की प्रक्रिया से जुड़कर हम बालकों के समक्ष आदर्श बन सकते हैं तथा अपनी कार्यप्रणाली व सद्व्यवहार से उनके दिल में अमिट छवि कायम कर सकते है। यदि हम प्रत्येक कालांश में समय पर कक्षा मे पहुँच जाए तो फ़िर बच्चों को समय पालन की घुट्टी पिलाने की आवश्यकता नहीं रहेगी। कक्षा में यदि मन लगाकर अध्ययन-अध्यापन क्रिया से जुड़े रहें तो न गृहकार्य की समस्या आएगी, न ही कक्षा में कमजोर छात्रों की भीड बढेगी और न प्रतिभावान छात्रो मे निराशा पनपेगी। यदि हमे भावी पीढी को कर्तव्यपरायण, परिश्रमी, होनहार बनाना है तो फिर विद्यालय समय में उनके साथ मेहनत करनी होगी, व्यावहारिक रूप में उनकी भावना से जुडने की कोशिश करने का संकल्प लेना होगा। केवल उपदेश के भरोसे हम बालकों में नैतिक मूल्यो, सामाजिक आकांक्षाओं को स्थापित नहीं कर सकते।

यदि कक्षा में जाकर हम अपने वास्तविक दायित्व बोध से विमुख होकर, व्यक्तिगत कार्यो की पूर्ति में लग जाएं जैसे पत्र लिखना, कविता या लेख लिखना, घर-गृहस्थी के हालात पर चितन करना, अगल-बगल वाली कक्षा मे तैनात साथी से बातचीत करना, कक्षा के दरवाजे पर खडे-खडे गपशप करना, हास-परिहास करना इत्यादि, तो इन सबका बालक के कोमल हृदय पर कुठाराघात होता है, उसके निर्मल दिल में चोट पहुँचती है, उसके मन मे कुंठा पनपती है। कक्षा के छात्र भी अपने नायक शिक्षक की तर्ज पर धुन बजाते हैं। शिक्षक की देखा-देखी कक्षा में बालक भी बातें करेगे, चीखेंगे, चिल्लाएगे। एक दूसरे के साथ शरारत करेंगे, इसकी उसकी चीजें लेगे, खाना खाएंगे, तग करेंगे और शिकायत करते हुए हो-हल्ला भी मचाएगे। यानी जो कीमती समय सीखने-सिखाने की प्रक्रिया मे व्यतीत होना चाहिए वह हरकत व शरारत मे बीत जाएगा। इस चिंतनीय व यथार्थ स्थिति से बालक बहुत प्रभावित होता है। वह ऐसे प्रतिभावान शिक्षको से दूरी रखने का प्रयास करने लगता है, उनसे कतराने लगता है, उसका मन शिक्षण के बजाए सेवा के कामो में लग जाता है या कालांश से बचने, स्कूल से पलायन करने या उस पीरियड मे पानी, पेशाब के बहाने बाहर सैर सपाटे करने में रमने लगता है। कई बार बालक को विद्यालय से भागने में शिक्षक भी परोक्ष रूप से भागीदारी निभाते हैं जो विचारणीय बिन्दु है।

साफ वस्त्र पहनना, अच्छे तरीके से वेशभूषा धारण करना, बोलने का शिष्ट तरीका, मीठी वाणी, विनीत भाव, सद्व्यवहार, रहन-सहन व उठने-बैठने का शिष्टाचार, खानपान का सलीका आदि बातो से व शिक्षण के तजुर्बे, छात्रो के प्रति अगाध स्नेह आदि से शिक्षक बालको के समक्ष आदर्श प्रतिदर्श बनकर उनमें नैतिक मूल्यो की बुनियाद को साकार रूप दे सकता है। उसे अपनी बातचीत के दौरान ऐसे शब्दो का प्रयोग नहीं करना चाहिए जो अनुचित व अपशब्दों के सबंधी हो। मॉनीटर को कक्षा को मोनिट (माइंड) करने का आर्डर देकर जब हम कक्षा से बाहर निकल कर हंसी मजाक करते रहेंगे, गपशप में मशगूल रहेंगे, शिक्षण से सहानुभूति नहीं रखेंगे तब 'चुप रहिए' 'शांत रहिए' 'बच्चो शोर मत कीजिए', बातचीत न करो वरना पनिशमेंट मिलेगा इत्यादि हिदायतों व चेतावनियो का कोई अर्थ नहीं रह जाता है क्योकि कोई भी गुरु स्वय बातें करके शिष्यों को चुप रहने का सबक नहीं सिखा सकता है। पहले स्वयं को गुड खाना बंद करना पडेगा तभी हम शिष्यो से ऐसा आग्रह कर सकते हैं। हमें इस बात को अच्छी तरह से समझना होगा, आत्मनिरीक्षण व आत्मचिंतन करना होगा। यदि हम स्वच्छ रहते हैं, साफ कपडे पहनते हैं, सिर से पॉव तक सफाई का ख्याल रखते हैं तो फिर बच्चे अपने आप स्वच्छ रहेगे। हमें आदर्श भूमिका के निर्वहन के लिए बहुत त्याग करने व संयम बरतने की आवश्यकता है। मन की तृष्णा पर अंकुश लगाने की जरूरत है। संस्कारों की बुनियाद पर सब बालक देश के वे कर्मठ नागरिक, सुयोग्य प्रशासक, शूरवीर सैनिक, प्रबुद्ध वैज्ञानिक, समर्पित देशभक्त, ईमानदार कर्मचारी बनकर

भविष्य की शान, कल के कर्णधार बनेंगे, उनके कंधो पर देश की बागडोर का भार आयेगा इसलिए उनके बहुमुखी व्यक्तित्व के विकास, चरित्र निर्माण व बौद्धिक उन्नयन में किसी भी स्तर पर कमी नहीं रहनी चाहिए। उनके फौलादी कंधे मजबूत होने चाहिए, हौंसले बुलंद होने चाहिए। सर्वांगीण विकास में कहीं कोई कसर नहीं रहनी चाहिए। बालक के समग्र विकास में शिक्षक का बहुत योगदान होता है।

बालको को डांट फटकार भी नहीं लगानी चाहिए क्योकि वे बहुत संवेदनशील मनोवृत्ति के होते हैं, शब्द की धार तलवार से भी पैनी होती है, पता नहीं कौन सा शब्द, गुस्से में फिसलकर बालक के कोमल दिल में जख्म पैदा कर दे। मारपीट को कभी भी आदत मत बनाइए। बालक के गलती करने पर भी, उसकी भूल का उसे अहसास कराकर प्यार व सहानुभूति से समझाना चाहिए। उनमे ऐसा भाव जाग्रत करना चाहिए कि वे गलती की पुनरावृत्ति जीवन के किसी भी मोड़ पर कभी भी न करे। उनकी सृजनात्मक प्रतिभा का दमन नहीं बल्कि संवर्धन करना चाहिए। अपने शैक्षिक ज्ञान, सामान्य समझ, व्यावसायिक कौशल, अधिगम चातुर्य के सुनहरे दर्पण से उनकी असीम रचनात्मक शक्ति को पहचान कर उनकी प्रतिभा व योग्यता का उचित व अनुकूल परिस्थितियो में आवश्यक मार्गदर्शन देकर संवर्धन करे। स्कूल समय में बच्चों के साथ मनसा वाचा कर्मणा जुडे रहें। विद्यालय में जाकर भी घर-गृहस्थी के प्रपच में न उलझें, दुनियादारी के मायावी जाल की शिरफ्त से बचें। शिक्षण पुनीत कर्तव्य है। साक्षर बनाने का कार्य पुनीत धर्म है। वैसे तो मानव स्वभाव ही ऐसा है कि जन्म से मृत्यु तक कुछ न कुछ सीखते रहना पडता है किन्तु जो बातें बालक बचपन में सीख जाते है वे चिर स्मरणीय रहती हैं। वे ताजिंदगी साथ निभाती है। जीवन की खुशहाली के हर चौराहे पर चौकस रखकर सही राह दिखाती हैं, आत्म बल बढाती हैं, स्वाभिमान जगाती हैं।

प्रतिफल अध्ययनशील प्रवृत्ति, विनीत आकांक्षाएं, शालीन व्यवहार, सादी वेशभूषा, उच्च विचार, नेक अभिलाषा, मातृभूमि प्रेम, बुद्धि कौशल, कर्तव्यपरायणता, अनुशासनप्रियता, बालकों के प्रति असीम स्नेह भाव प्रत्येक शिक्षक को सम्माननीय बना देते हैं। ईमानदारी से गृहकार्य जाचना, बालक की आदतों पर पैनी नजर रखना, सच्चे मन से पढ़ाना, कभी भी देर से कक्षा मे न पहुचना, सच बोलना, परोपकारी होना आदि सद्गुण उसे गौरवान्वित तो करते ही हैं साथ ही बालक व अभिभावक भी दिल से उसका मान-सम्मान करते हैं। बालक तो शिक्षक की बात को ब्रह्मवाक्य मानता है, तहे दिल से सम्मान करता है। यही श्रद्धा व आदर भाव प्राप्त करना सच्चे शिक्षक की निशानी है। इसीलिए हमारा भी यह नैतिक कर्तव्य बन जाता है कि हम बालक के स्वस्थ व संतुलित विकास में सहज भाव से आदर्श भूमिका निभाएं। यदि बालक हमें आदर्श मानकर हमारी बातों को, आदतों को, जज्बातों को जीवन में अनुकरण करने का प्रयास करते हैं तो हमे नेतृत्व की कमान मुस्तैदी व दिलेरी के साथ सभालने का संकल्प लेना चाहिए। हमारी आदर्श भूमिका बालक को सभ्य नागरिक बनने की ओर अग्रेषित कर दे इससे बड़ा क्या स्वाभिमान होगा? जब शिष्य की आब से सारा चमन महक उठेगा तो माली की मेहनत सफल मानी जाएगी। महकती फुलवारी की सुगध से दिलों मे खुशी भर जाएगी। ◻◻

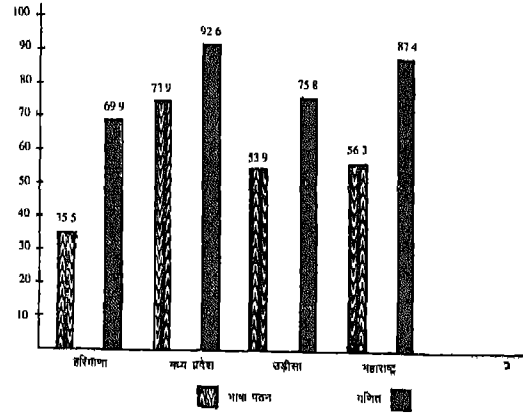
बी.3, स्टाफ क्वार्टर्स
केन्द्रीय विद्यालय परिसर
मोती डूंगरी के नजदीक
अलवर, राजस्थान

प्राथमिक कक्षाओं में बच्चों के उपलब्धि स्तर में सुधार के लिए अभिभावक शिक्षा एवं सहयोग

☐ जी.सी. उपाध्याय

वर्तमान में किए गए अध्ययनों से यह उभर कर सामने आया है कि प्राथमिक कक्षाओं में बालक-बालिकाओं का उपलब्धि का स्तर* बहुत निराशाजनक है। प्राथमिक शिक्षा के गुणात्मक सर्वव्यापीकरण के लिए यह आवश्यक है कि प्रत्येक बालक-बालिका हर एक कक्षा में उन अधिगम स्तरों को अवश्य प्राप्त कर सके जो उस कक्षा के लिए न्यूनतम रूप मे वांछित है। लेकिन अध्ययनो से यह स्पष्ट है कि अधिकांश बच्चे (75-80%) इन स्तरो से बहुत नीचे हैं। एक अध्ययन के अनुसार कक्षा 4 व 5 के अधिकाश बच्चे (90-95%) शब्दार्थ बताने में असक्षम रहे हैं। इसी प्रकार पठन बोध मे 10% बच्चे ही पारंगतता के स्तर (मास्टरी लेवल) तक पहुच सके हैं। गणित में अधिकांश बच्चे गुणां, भाग एवं स्थानीय मान बताने मे असमर्थ रहे हैं।

इससे यह स्पष्ट है कि बालक-बालिकाओं की आधारभूत नींव ही कमजोर रही है। जिस दक्षता को बच्चे ने कक्षा 1 मे प्राप्त करना था यदि नहीं कर पाया तो वह इस दक्षता व सम्बन्धित दक्षताओ में आगे भी पिछडता ही जाएगा, क्योंकि नया सीखना पूर्णतया पुरानी नींव पर निर्भर करता है। इस नींव को मजबूत करने के लिए यह सुनिश्चित करना आवश्यक है कि प्रत्येक बालक-बालिका कक्षावार प्रत्येक विषय मे उन दक्षताओ मे पारंगतता प्राप्त कर जो उस कक्षा के लिए 'न्यूनतम अधिगम स्तर' के अन्तर्गत निर्धारित है, प्रारंभिक शिक्षण में गुणवत्ता लाने के लिए राष्ट्रीय स्तर पर इन 'न्यूनतम अधिगम स्तरों' का निर्धारण किया गया है तथा प्रत्येक बालक-बालिका द्वारा चाहे वह देश के किसी क्षेत्र का हो, कक्षावार निर्धारित दक्षताओं में पारगतता प्राप्त करने का लक्ष्य भी रखा गया है। अभिभावक इन दक्षताओ की प्राप्ति में बहुत सहायता कर सकते हैं।

प्राथमिक कक्षाओ (चौथी-पाचवी) के बच्चों के सीखने की उपलब्धि 40% से कम के औसताक वाले स्कूलो की सख्या (भाषा एवं गणित मे)।

अभिभावकों की जानकारी के लिए उदाहरण के रूप में कक्षा 1 की कुछ दक्षताओ को नीचे दिया गया है। जिससे वे बच्चो के सीखने की गति एवं मात्रा की स्वयं भी देखरेख कर सकते हैं।

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* रिसर्च, बेस्ड, इन्टरवेन्शन इन प्राइमरी एजुकेशन, द डी.पी.ई.पी स्टडीज, नेशनल सेमीनार, 23-25 अगस्त, 1994, एन सी.ई.आर टी, नई दिल्ली

न्यूनतम अधिगम स्तर

कक्षा 1 के अन्त तक भाषा मे प्राप्त की जाने वाली दक्षताएं-

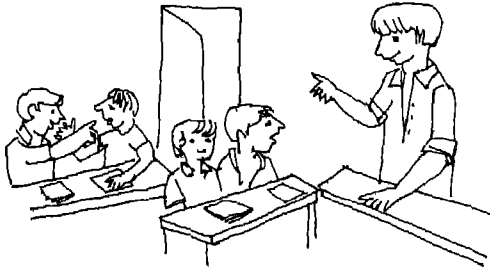
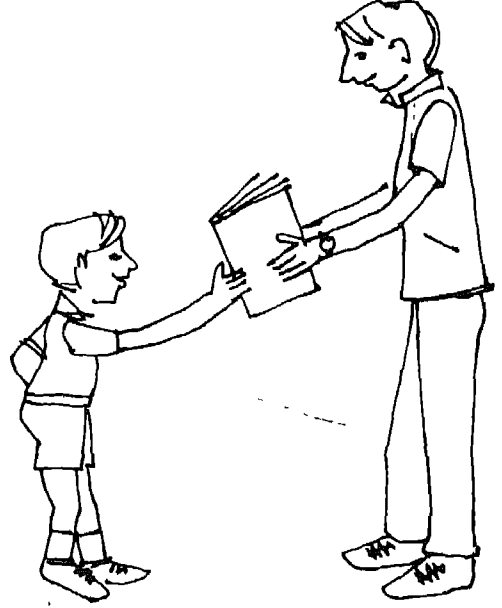
- ☐ बच्चे को अध्यापक के मौखिक निर्देश समझ मे आने चाहिए।
- ☐ बच्चे सरल प्रश्नो का हां/ना मे उत्तर दे सके।
- ☐ बड़े छापे के अक्षरो (तीन व्यंजनों से बने) को सरलता से पढ़ सकें।
- ☐ सरल वाक्य लिख सकें।
- ☐ लगभग 1500 शब्दों का शब्द भडार हो।

कक्षा 1 के अन्त तक गणित में प्राप्त की जाने वाली दक्षताएं-

- ☐ 1-100 तक नम्बर पहचान सकें।
- ☐ 1-20 तक चीजों की गिनती कर सके।
- ☐ शून्य की पहचान कर सके (जबकि कुछ न हो)।
- ☐ 10-20 के बीच के अंकों का स्थानीय मान बता सके।
- ☐ 1-100 तक के अकों को बढते व घटते क्रम मे बता सके।
- ☐ 1-100 तक के अकों में कम ज्यादा का ज्ञान हो।
- ☐ 9 तक की 2 सख्या जोड सके एवं घटा सकें।
- ☐ दैनिक जीवन मे उन समस्या प्रश्नो को हल कर सकें जिसमें 9 तक के अंक हो।

इसी प्रकार पर्यावरण अध्ययन व अन्य विषयो में भी कक्षावार दक्षताएँ निर्धारित हैं।

बच्चों के उपलब्धि स्तर को ऊपर उठाने के लिए अभिभावको को निम्न बातो की ओर ध्यान देना चाहिए-

- सुनिश्चित करना कि अध्यापक द्वारा प्रयुक्त भाषा बच्चे की समझ में आती है। यदि अध्यापक की भाषा बच्चे की समझ में न आए तो बच्चा कुछ भी सीखने में असमर्थ होगा।

- सुनिश्चित करना कि बच्चे के पास पाठ्यपुस्तक व अन्य सामग्री उपलब्ध है। यदि कमी हो तो उसे पूरा करना।

- यह सुनिश्चित करना कि अगली कक्षा में जाने से पहले बालक-बालिका ने वर्तमान कक्षा के लिए निर्धारित दक्षताओं में पारगतता प्राप्त कर ली है।
- यदि बालक दक्षता में पिछडा है तो प्रत्येक दक्षता के वांछित विकास के लिए सत्र के मध्य में सुधार उपाय करना।
- सत्र के मध्य मे सुधार उपाय करने के लिए प्रत्येक दक्षता का सतत मूल्याकन करना।
- क्रमबद्ध सीखने पर ध्यान देना। जब बालक को 0-9 के अंकों का जोड घटा अच्छी तरह आ जाए तभी 10-19 तक का जोड़ घटा व फिर आगे के 3 अको वाली संख्याओं के जोड घटा का क्रम शुरू करना चाहिए, जब तक पहले क्रम मे बच्चा पारगत न हो दूसरे क्रम में नहीं लाना चाहिए।
- बच्चों के पास अतिरिक्त पठन सामग्री की उपलब्धता, (जिन बच्चों के पास पाठ्यपुस्तक के साथ अन्य सामग्री पढ़ने

के लिए होती है, उनका पठन बोध ऊँचा होता है)।

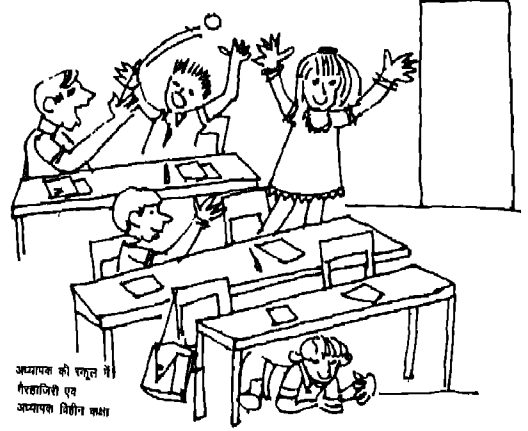
- जो अभिभावक बालक के साथ मिलकर प्रतिदिन 10 मिनट नियमित रूप से पठन करते हैं या बालक से पठन करवाते हैं उन बच्चो की पठन सप्रेषणीयता मे आशातीत सुधार होता है।

- जिन बच्चो को नियमित श्रुतलेखन (अभिभावक बोलते हैं बालक लिखता है) का अभ्यास मिलता है उनके लेखन में सुधार व भाषा मे विकास होता है।

- अभिभावक द्वारा बालक के स्कूल व गृह कार्य की नियमित देखरेख का बालक की उपलब्धि पर प्रभाव पडता है।

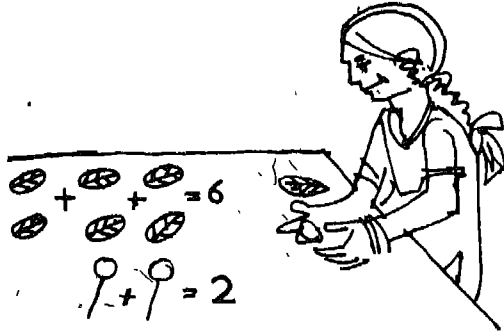
कार्य की सतत जाच

- बालक के कार्य की लगातार जांच कर उसे उपयुक्त निर्देश देने से बालक अधिक सीख पाता है।

बालक के कार्य की सतत जाच के बाद आवश्यक निर्देश

- विद्यालयों में यह नियम है कि बच्चे को कक्षा 1 व 2 में फेल न किया जाए या रोका न जाए। इससे कई बच्चे वांछित दक्षताओं में पारंगत हुए बिना ही आगे बढ जाते हैं जो उनके लिए आगे की पढ़ाई में कठिनाइयाँ पैदा करता है। इसलिए अभिभावकों को यह देखना चाहिए कि बालक बिना सीखे ही आगे तो नहीं बढ़ रहा है। अभिभावकों को यह भी देखना चाहिए कि अध्यापक नियमित रूप से विद्यालय में उपस्थित है या नहीं क्योंकि बच्चों का सीखना विद्यालय में बिताई सीखने की अवधि पर निर्भर करता है। कई अध्यापक देर से आते हैं और जल्दी चले जाते हैं। इससे बच्चों को सिखाने में लगने वाला समय कम हो जाता है।

अध्यापक की स्कूल में गैरहाजिरी एव अध्यापक विहीन कक्षा

- बच्चों में सीखना तब परिपुष्ट होता है जब स्वयं करके सीखते हैं। प्रत्येक दक्षता की पारंगतता भी तभी आ सकती है। इसलिए क्रियाओं द्वारा सीखना प्रभावशाली रहता है न कि रटा कर सिखाना। अभिभावकों को चाहिए कि वे अध्यापक को क्रियाओं को कराने में उपयोगी सीखने की सामग्री की उपलब्धता मे सहयोग दे।

क्रियाओं द्वारा सीखना

- अभिभावक घर में भी बालक को विभिन्न प्राकृतिक एवं प्रयोगिक सामग्री से सीखने में मदद कर सकते हैं जैसे, उदाहरण के लिए पत्तियों, फलों, पत्थर के छोटे टुकड़ों आदि के उपयोग से बच्चा अंकों का ज्ञान, जोड़ घटाव आदि में पारंगतता की ओर अग्रसर हो सकेगा। इसी प्रकार प्राकृतिक वातावरण से साक्षात्कार द्वारा बालक परिवेश अध्ययन में उच्च उपलब्धि पा सकता है। इसी प्रकार गणित के ज्ञान की पुष्टि भी खेतों, खलिहानों में समुद्र के किनारे, बगीचे में भी हो सकती है।

अभिभावक-सम्मेलनों के माध्यम से अध्यापक इन उपरोक्त विषयों की जानकारी अभिभावकों तक पहुंचा सकता है। □□

प्रवक्ता
राष्ट्रीय शैक्षिक अनुसंधान और प्रशिक्षण परिषद्
नई दिल्ली

बालकों में चरित्र का विकास

□ स. न. तिलक राज उप्पल

गाँधी जी का ऐसा मानना था कि व्यक्ति का चरित्र ही वह आधार है जिसके बल पर राष्ट्र निर्माण का कार्य हो सकता है। अत हमारी शिक्षा व्यवस्था में चरित्र निर्माण का महत्त्वपूर्ण स्थान होना चाहिए। चरित्र निर्माण के लिए नैतिक मूल्यों के विकास से बड़ी सहायता मिलती है। चरित्र निर्माण एक ओर व्यक्ति के विकास में सहायता करता है उसे जीवन की ऊँचाइयो पर पहुँचाता है तो दूसरी ओर चरित्रवान व्यक्ति परिवार, समाज एवं अन्ततोगत्वा विश्व में सत्य, प्रेम, व्यवस्था तथा सामंजस्य का वातावरण पैदा करते हैं। ऐसे व्यक्ति किसी भी समाज की शक्ति होते हैं। मार्टिन लूथर का कहना था, "किसी राष्ट्र की सम्पन्नता न तो अधिक राजस्व प्राप्ति में है न उसकी सुद ढ सुरक्षा व्यवस्था में और न ही उसके सुन्दर सरकारी भवनो में, बल्कि राष्ट्र की सच्ची सम्पन्नता तो उसके प्रबुद्ध, सुशिक्षित एव चरित्रवान नागरिको से होती है। इन्हीं लोगों में राष्ट्र का सच्चा हित और शक्ति निहित है।" चरित्रवान व्यक्तियों की छाया मे राष्ट्र एवं समाज अपने आप को सुरक्षित पाता है।

बालकों के चरित्र निर्माण की जिम्मेदारी माता-पिता, गुरुजनों, समाज एवं बालक सभी की होती है। अगर इनमें से कोई भी अपने दायित्व का निर्वाह नहीं करता या उपेक्षा वृत्ति धारण करता है तो चरित्र निर्माण का कार्य पूरा नहीं होता है और चरित्र निर्माण के कार्य का जो फल मिलना चाहिए वह नहीं मिल पाता। अत यह काम बालक, उनके माता-पिता, गुरुजन और समाज सबको मिलकर करना चाहिए। आज चरित्र में जो गिरावट आई है उसका एक प्रमुख कारण यह है कि भिन्न-भिन्न कारणो से हम सब अपने दायित्त्व का निर्वाह नहीं करते हैं। विशेषकर घर जो चरित्र निर्माण का एक मूल केन्द्र अपनी भूमिका का निर्वाह नहीं कर पा रहा। अत बालक, जो परिवार का भविष्य है, उसकी देख रेख के लिए वे समय निकालें। बालकों में अच्छे संस्कार डालने तथा उन्हे कुसंस्कारो एवं दुष्कर्म से बचाने के लिए प्रयास करे।

वास्तव में जीवन मूल्यों के विकास मे इस बात से बहुत सहायता मिलती है कि बालक के जीवन का लक्ष्य क्या है-वह जीवन मे क्या करना चाहता है! जितना निस्वार्थ एवं उदार उसका जीवन लक्ष्य होगा वैसे ही उसके जीवन मूल्य होगे। यदि उसके जीवन का लक्ष्य धन कमाकर भौतिक दृष्टि से सम्पन्न जीवन बिताना है तो वह सेवा, परमार्थ, त्याग, सत्य, प्रेम जैसे जीवन मूल्यों का विकास नहीं कर पायेगा। परतु यदि उसके जीवन का लक्ष्य उदार है- वह सेवा, त्याग और परमार्थ की भावना से प्रेरित है, तो उपरोक्त जीवन मूल्य उसके स्वभाव में स्वत जुड़ जायेंगे। अत माता-पिता एवं गुरुजनों को बालकों के सामने यदा-कदा उदारमना महापुरुषों के चरित्रों की चर्चा करनी चाहिए जिनसे प्रेरणा प्राप्त कर बालक अपना जीवन आदर्श चुन लें। सत्य, सेवा, मानव प्रेम, त्याग, देश भक्ति, इत्यादि की भावना से प्रेरित होकर बडे-बड़े काम करने वाले राजा हरिश्चन्द्र, महात्मा बुद्ध, ईसा, शिवाजी, गुरु नानक, महात्मा गाँधी, श्रवण कुमार, सुकरात जैसे महापुरुषो के चरित्रों की चर्चा बालकों की कोमल कल्पना को बहुत प्रभावित कर सकती है।

बालकों मे नैतिक एवं आध्यात्मिक मूल्यो के विकास में विभिन्न धर्मो के ग्रथों एव सत महात्माओं के उपदेशों से बड़ी सहायता मिलती है। रामचरितमानस, भगवद्गीता, वेद मंत्रों, बाईबल, कुरान, गुरु ग्रंथ साहिब, महात्मा बुद्ध एवं महावीर के उपदेशों मे प्रचुर मात्रा में ऐसे विचार-रत्न भरे हुए हैं

जिनकी चर्चा से बालक का नैतिक एवं आत्मिक विकास हो सकता है। रामचरितमानस मे जिस सुन्दरता से राम, सीता, लक्ष्मण, भरत, कौशल्या इत्यादि के माध्यम से परस्पर प्रेम, श्रद्धा, सेवा, त्याग एवं सत्यनिष्ठा का आदर्श रखा गया है वह छोटे-छोटे बालकों के चरित्र निर्माण मे बहुत मदद कर सकता है। इसी प्रकार गीता की कर्तव्यनिष्ठा, वेदों के श्रेष्ठ मार्ग पर चलने एवं श्रेष्ठ जीवन जीने की प्रेरणा, बाईबल का मानव प्रेम, कुरान एवं गुरु ग्रंथ साहिब का सद्विचार और सदाचार पर बल, महात्मा बुद्ध की सम्यक् जीवन की कल्पना, महावीर का आत्मनिग्रह यह सारे विचार इतने सशक्त हैं कि यदि इनके बारे मे बालकों से चर्चा की जाए तो सहज रूप से उनमे एक अच्छे व्यक्ति की सम्भावनाएं पैदा की जा सकती है और यह एक ऐसा कार्य है कि यदि इसे निष्पक्ष रूप से किया जाए तो कोई संवैधानिक कठिनाई नहीं होती। लगभग सभी शिक्षा आयोगों ने इसकी सिफारिश की है।

अच्छे नैतिक मूल्यों को धारण करने की प्रेरणा बालक प्राय उन्हीं से प्राप्त करता है जो दैनिक जीवन मे इन मूल्यों के अनुसार आचरण करते हैं। अत यदि हम चाहते हैं कि हमारे बालक चरित्रवान हों, संयमित हो, कर्तव्यनिष्ठ हों, आज्ञापालन करने वाले हों, बडों का आदर करे तो हमें इन आदर्श जीवन मूल्यों के अनुसार जीवन जीना चाहिए। दूसरी ओर यह भी जरूरी है कि माता-पिता और गुरुजन इत्यादि बालक के साथ प्रेम, और सहृदयता का सम्बन्ध जोड़ें ताकि बालक उनके समीप आएँ और उनका विश्वास प्राप्त कर सके।

नैतिक मूल्यों का प्रभाव हमारे दैनिक व्यवहार पर भी पड़ता है जिससे अच्छे मानवीय सम्बन्ध स्थापित होते हैं। बड़ों का आदर करना, सत्य बोलना, अहकार न रखना एव शिष्ट व्यवहार करना, दूसरो की मदद करना, दूसरों के प्रति पवित्र भावना रखना, ईमानदारी बरतना इत्यादि ऐसे व्यवहार हैं जिनसे आदर्श मानवीय सम्बन्धों की स्थापना होती है। व्यक्ति का ऐसा व्यवहार समाजिक जीवन में सरसता पैदा करता है।

चरित्र विकास में हमारे दैनिक जीवन का भी बडा प्रभाव पडता है। हम किस समय सो कर उठते हैं, किस समय हमारा दैनिक जीवन आरंभ होता है, दिनचर्या आरंभ करते समय हमारे मन की क्या स्थिति होती है आदि सब बातें हमारे चरित्र को बनाने-बिगाडने में बड़ा योगदान देती हैं। जो बालक सुबह सवेरे अपना बिस्तर छोड़ देता है और बिना हडबड़ाये सोच-विचार कर स्वस्थ मन से अपने दैनिक कार्य करना शुरू कर देता है वह निश्चय ही अपने चरित्र को शक्ति प्रदान करता है। जीवन में ऐसी नियमितता एव कार्यनिष्ठा बालक के व्यक्तित्व को चार चाँद लगा देती है।

चरित्र विकास में संवेगों का भी बड़ा योगदान रहता है। यह संवेग अप्रत्यक्ष रूप से मानव के व्यक्तित्व को बहुत प्रभावित करते है। जहां प्रेम, सहानुभूति, दया एवं करुणा जैसे संवेग मानव के व्यक्तित्व को सुन्दरता प्रदान करते हैं वहीं काम, क्रोध, लोभ, मोह आदि निषेधात्मक सवेग मनुष्य के व्यक्तित्व एव चरित्र को दूषित कर देते हैं। अत. विवेक के द्वारा अच्छे सवेगो का विकास एव बुरे सवेगों पर संयम रखने का अभ्यास बालकों को करना चाहिए। इस दिशा में माता-पिता एवं गुरुजनों को विवेकशील एव संयमित जीवन जीने वाले व्यक्तियों के उदाहरण देने चाहिए ताकि उनका चरित्र एव प्रकृति अच्छी बन सके। चरित्र विकास में आत्मबल का बडा योगदान होता है। प्राय: हम जानते हैं कि अमुक कार्य अच्छे हैं और करने चाहिए परन्तु हमारा मन उन्हें करने के लिए तैयार नहीं होता। दूसरी ओर कुछ ऐसे कार्य हैं जो हमें नहीं करने चाहिए परन्तु हम अपने मन को उन कार्यों को करने के लिए रोक नहीं पाते। अत मन को शुभ कार्यों में प्रेरित करने के लिए आत्मबल की बडी आवश्यकता होती है। इस कार्य के लिए गुरुजनों तथा माता-पिता को महापुरुषो के जीवन तथा महान ग्रंथो में दिए गए सशक्त विचारो का सहारा तो लेना ही चाहिए साथ ही बालकों को प्रेरणा देनी चाहिए कि वे नित्य ईश्वर से प्रार्थना करने की आदत डालें। प्रार्थना के दौरान वे अपने दोषो पर विचार करें और ईश्वर से शुभ संकल्पों और आत्मबल की प्रार्थना करें।

अन्त में पुन. इस बात पर बल देना उचित होगा कि बालक के विकास के लिए चरित्र का बहुत ही महत्त्व है और इस विषय मे माता-पिता एव अध्यापको को पूरा ध्यान देना चाहिए। यह विषय इतना व्यापक है कि ऊपर दिए गए सुझाव इस कार्य को पूरा करने के लिए काफी नहीं हैं। अत. हम सबका कर्तव्य है कि हम अपनी सूझ-बूझ के द्वारा बालकों के

चरित्र विकास के लिए हर सम्भव प्रयास करें। इस प्रयास मे माता-पिता एव बालक का हित तो निहित है ही, इससे अध्यापकों की भी प्रतिष्ठा बढ़ेगी और उन्हे बालक के व्यक्तित्व को सवारने का एक अद्‌भुत आनन्द मिलेगा। ☐☐

अनुभाग अधिकारी
राष्ट्रीय शैक्षिक अनुसंधान और प्रशिक्षण परिषद्
नई दिल्ली

सर्वजनीन प्राथमिक शिक्षा-ऐतिहासिक पृष्ठभूमि

प्राथमिक शिक्षा को सर्वजनीन बनाने का पहला प्रयास भारत में 1893 ई में बड़ौदा रियासत के एक तालुके में हुआ। 1910-11 में डा गोपाल कृष्ण गोखले ने केन्द्रीय धारा सभा में प्राथमिक शिक्षा को 'बूँद नहीं अजस्रधार' बनाने की मांग की। वर्ष 1914 में ब्रिटिश सरकार ने युद्धेतर शैक्षिक पुनर्संरचना योजना में 40 वर्षों के भीतर इस व्यवस्था को आरंभ करने का वायदा किया। प्रयोग के तौर पर सरकार द्वारा 1919-24 में प्रयास हुआ पर अनेक कारणों से यह सफल नहीं हो सका।

भारतीय सविधान मे प्राथमिक शिक्षा को सर्वसुलभ करने की अवधि दस वर्ष निर्धारित हुई। 1968, 1977 एवं 1986 की राष्ट्रीय शिक्षा नीति की घोषणाओ और संयुक्त राष्ट्र संघ के सहयोग के बाद भी इस लक्ष्य को पाने मे हम अब तक असमर्थ रहे हैं। इसके अनेक कारण हैं। 1948 मे खरे समिति ने सकल राष्ट्रीय आय का 6 प्रतिशत (केन्द्रीय राजस्व से 10 प्रतिशत एवं राज्यो की आय से 20 प्रतिशत) शिक्षा पर व्यय की आवश्यकता जताई जिस पर अब तक अमल नहीं हो सका है। कुल आबादी के 50 प्रतिशत से अधिक लोग गरीबी की रेखा के नीचे हैं और राष्ट्रीय आय की 3 प्रतिशत से भी कम राशि शिक्षा पर खर्च की जा रही है। इस तरह हम प्राथमिक शिक्षा के सार्वजनीकरण की लक्ष्य-प्राप्ति से दूर हैं।

खुशी की बात है कि उच्चतम न्यायालय ने प्राथमिक शिक्षा को मौलिक अधिकार की कोटि में रख दिया है। इसे क्रियान्वित करने के लिए सापेक्ष कार्रवाई अपेक्षित है।

सर्वजनीन प्राथमिक शिक्षा – आयाम एवं उपागम

एक संवैधानिक दायित्व – भारत एक विशाल प्रजातांत्रिक गणराज्य है। प्रजातात्रिक देश के लिए शिक्षा उसकी रीढ़ मानी जाती है। इसीलिए भारत के संविधान के अनुच्छेद 45 के अन्तर्गत राज्यों को निर्देश इन शब्दो में दिया गया है – "राज्य, इस संविधान के प्रारंभ से दस वर्ष की अवधि के भीतर सभी बालकों को चौदह वर्ष की आयु पूरी करने तक नि शुल्क और अनिवार्य शिक्षा देने के लिए उपबंध करने का प्रयास करेगा।" और अनुच्छेद 46 के अन्तर्गत यह भी कहा गया है-

"राज्य, जनता के दुर्बल वर्गों के – विशिष्टतया, अनुसूचित जातियों और अनुसूचित जनजातियों की शिक्षा और अर्थ संबंधी हितों की विशेष सावधानी से अभिवृद्धि करेगा और सामाजिक अन्याय और सभी प्रकार के शोषण से उनकी संरक्षा करेगा।" इस तरह सर्वजनीन प्राथमिक शिक्षा हमारा संवैधानिक दायित्व हो जाता है।

सर्वजनीन प्राथमिक शिक्षा के क्षेत्र में बिहार की स्थिति – विश्व-पटल पर भारत की गणना शिक्षा की दृष्टि से एक पिछड़े देश के रूप में की जाती है। हमारे राज्य की स्थिति तो उसकी तुलना में और भी दयनीय है जहाँ सामाजिक और आर्थिक रूप से पिछड़े वर्गों, विशेषकर अनुसूचित जाति, अनुसूचित जनजाति और महिलाओ के बीच शिक्षा का प्रचार-प्रसार नगण्य है।

कक्षा 1 से 5 में विद्यालय छोड़ने वालों की दर 65.33 है जबकि राष्ट्रीय स्तर पर इसकी औसत 50.26 है। कक्षा 1 में नामांकित छात्रो में से 13 छात्र ही कक्षा 8 में पहुंच पाते हैं। इस तरह प्रतिधारण की दर बहुत ही कम है।

सातवीं पंचवर्षीय योजना में 42000 शिक्षक इकाइयों के विरुद्ध मात्र 28025 इकाइयां, कोष की कमी के कारण स्वीकृत

की जा सकीं। 1990-91 एवं 1991-92 में एक भी शिक्षक इकाई स्वीकृत नहीं हुई।

वर्ष 1992-97 की आठवीं योजना एवं वर्ष 1992-93 मे निम्नांकित परियोजना प्रस्तावित हुई-

1992-97 की अनुमानित जनसंख्या के आधार पर 6-14 उम्र-समूह के बालक एवं बालिकाओं की संख्या 2 करोड 21 लाख 63 हजार हो जाएगी। 1991-92 तक 6-14 उम्र समूह के 1 करोड 54 लाख 25 हजार बच्चे-बच्चियों के अनौपचारिक विद्यालयों एवं केन्द्रो में नामांकित होने का अनुमान है। शिक्षा के सार्वजनीकरण के लिए 1992-97 के दरम्यान (अर्थात् आठवीं पंचवर्षीय योजना मे) 6-14 आयु-समूह के 75 लाख 38 हजार बच्चे-बच्चियो को नामांकित करने की आवश्यकता है। यह माना जाता है कि 25 लाख बच्चों को शिक्षाकर्मी और शिक्षा की अनौपचारिक पद्धति से लाभ मिलेगा। शेष 50 लाख 38 हजार बच्चे जो बचते हैं, उन्हे औपचारिक पद्धति की शिक्षा प्रदान की जाएगी। शिक्षा एवं छात्र के 1 50 के अनुपात को मानते हुए 1, 17, 600 शिक्षकों को आठवीं पचवर्षीय योजना की अवधि मे नियुक्त करने की आवश्यकता है। इसके अतिरिक्त सातवीं योजना में स्वीकृत 9, 943 शिक्षक इकाइयों को भी 1990-91 एवं 1991-92 में निरंतर बनाये रखने की आवश्यकता है ('एलिमेंट्री एजुकेशन प्लान डक्यूमेंट' हिन्दी मे अनूदित)

सर्वजनीन शिक्षा के आयाम – प्रश्न यह उठता है कि संवैधानिक दायित्व का निर्वाह करते हुए बिहार राज्य में सर्वजनीन शिक्षा के लक्ष्य की प्राप्ति के लिए कौन-कौन से कार्य किए जाएँ कि विद्यालय जाने योग्य सभी बच्चे नामांकित हो सके। सर्वजनीन शिक्षा के लक्ष्य की प्राप्ति से तात्पर्य है-

- ☐ विद्यालय में 6-14 आयु-समूह के सभी बच्चे/बच्चियों का नामांकन।
- ☐ विद्यालय में सभी नामांकित छात्रो का बना रहना यानी प्रतिधारण, छीजन और स्थगन मे कमी लाना।

सर्वजनीन शिक्षा में बाधक तत्व- यह काम तभी संभव है जब बिहार राज्य मे शैक्षिक पिछड़ेपन के कारणों एवं सर्वजनीन शिक्षा की लक्ष्य प्राप्ति की राह में आने वाले बाधक तत्वो के ऊपर सम्यक् रूप से विचार करें, जो इस प्रकार हैं-

- ☐ प्रथम पीढी के अधिगम पाने वालों के लिए कठिनाई। समुचित जानकारी के अभाव मे समुदाय/अभिभावक शिक्षा के प्रति उदासीन रहते हैं और नहीं चाहते कि उनके बच्चे पढ़ने जाएँ।
- ☐ दुर्गम, दूरस्थ और अंतरस्थ उन स्थानों में विद्यालय का न खोला जाना, जहाँ मुख्यत. आदिवासी, हरिजन आदि उपेक्षित लोग रहते हैं और वहाँ जिनकी आबादी कम है हालाकि सातवीं पचवर्षीय योजना में एक किलोमीटर के अन्दर प्राथमिक विद्यालय एवं तीन किलोमीटर के अन्दर माध्यमिक विद्यालय खोलने का प्रस्ताव है तथापि सर्वजनीन शिक्षा के मार्ग में यह बाधक बना हुआ है।
- ☐ दुर्गम, दूरस्थ और अन्तरस्थ स्थानो मे शिक्षकविहीन विद्यालय का रहना। अधिकांश व्यक्ति ऐसे स्थानों में अपना पदस्थापन नहीं चाहते। साथ ही सकल शिक्षक विद्यालय की व्यवस्था है लेकिन दूसरे रूप मे यह भी बाधक हैं।
- ☐ समाज का विद्यालय से एवं शिक्षको का समाज से कटा-कटा रहना भी इसमें बाधक है। इससे एक-दूसरे के प्रति सही दृष्टिकोण और सहयोग की भावना का अभाव रहता है।
- ☐ जिन्हें अध्ययन-अध्यापन में कोई रुचि नहीं रहती, वैसे लोगो को शिक्षक पद पर नियुक्त किया जाना भी सर्वजनीन शिक्षा की राह में बाधक है।
- ☐ नियुक्त शिक्षको द्वारा अपने दायित्व के प्रति घोर उदासीनता बरतना भी बाधक है।

सर्वजनीन शिक्षा के मार्ग में अन्य बाधक तत्व हैं –

- ☐ सामाजिक रूढिवादिता, विशेषकर बालिकाओ की शिक्षा के प्रति संकीर्ण विचार।
- ☐ अपार गति से बढती जनसंख्या जिसमें रोटी और आवास की समस्या ही प्रधान समस्या है।
- ☐ आर्थिक पिछडापन/बच्चे महंगी सामग्रियां खरीद नहीं पाते।
- ☐ अभिभावको के आर्थिक कार्य-कलापों मे बच्चों द्वारा प्रत्यक्ष एवं परोक्ष रूप से योगदान।

- विद्यालय में छात्रो को प्रेरित करने वाले तत्वो का अभाव।
- पाठ-सह-अतिरिक्त क्रियाशीलनों का अभाव।
- विद्यालय में उपस्कर एवं शैक्षिक उपादानो की कमी।
- परीक्षोन्मुख शिक्षण पद्धति।
- विद्यालय मे सामाजिक वातावरण का अभाव।
- अच्छे काम करने वालो एवं दुर्गम और अतरस्थ क्षेत्रों के विद्यालयो मे काम करने वालों के लिए कोई प्रेरणा, प्रोत्साहन एवं पुरस्कार की व्यवस्था नहीं।

लक्ष्य-पूर्ति हेतु उपागम

उपर्युक्त सभी कठिनाइयो/अड़चनों को दूर करने का एकमात्र उपाय है "सर्वव्यापी पहुँच, सर्वव्यापी भागीदारी एवं सर्वव्यापी उपलब्धि।"

सर्वव्यापी पहुँच · 'सर्वव्यापी पहुंच' का तात्पर्य है, बिना किसी बाधा के सभी बच्चे-बच्चियों का नामांकन एव वे स्कूल आ सकें, इसके लिए चतुर्दिक प्रयास।

सातवीं पचवर्षीय योजना में एक किलोमीटर के भीतर प्राथमिक विद्यालय एवं तीन किलोमीटर के भीतर एक माध्यमिक विद्यालय खोलकर 6-14 आयु-समूह के सभी बच्चे-बच्चियों के नामांकन का प्रस्ताव है। पर सरकारी कोष में धन की कमी, अपार गति से बढती जनसंख्या, लोगो में फैली गरीबी आदि इस लक्ष्य की प्राप्ति में बाधक हैं। अत· निर्णय लिया गया है कि इस लक्ष्य की प्राप्ति के लिए पूर्णकालिक औपचारिक विद्यालयो के साथ-साथ अंशकालिक अनौपचारिक शिक्षा-कन्द्रो के माध्यम से बच्चे-बच्चियों को शिक्षा (जो द्रुतगामी हो) दी जाए और इसके लिए 6-14 आयु-समूह के सभी बच्चे-बच्चियों का नामांकन किया जाए।

सर्वव्यापी भागीदारी

'सर्वव्यापी भागीदारी' का अर्थ है 'छात्र नियमित रूप से विद्यालय मे बने रहें,' इसके लिए सुविधाएँ प्रदान करना। ऐसी सुविधाओ को हम तीन कोटियों में विभाजित कर सकते है, यथा -

1. भौतिक सुविधाएँ।
2. शिक्षण संबंधी सुविधाएँ।
3. अन्य सुविधाएँ।

भौतिक सुविधाएँ : निम्नाकित सुविधाएँ भौतिक सुविधा के अन्तर्गत आती हैं -

- विद्यालय के लिए भूमि, भवन, अहाते की व्यवस्था।
- उपस्करो की व्यवस्था।
- घंटी एवं घडी की व्यवस्था।

शिक्षण संबंधी सुविधाएँ - निम्नलिखित सुविधाएँ 'शिक्षण सुविधाओ' के अन्तर्गत आती हैं-

- पाठ्यपुस्तकों एव पाठन-सामग्रियों की आपूर्ति।
- शिक्षण सामग्रियों (नक्शे, ग्लोब, चार्ट, चित्र आदि) की आपूर्ति।
- खेलकूद से संबंधित सामग्रियो की आपूर्ति।
- सांस्कृतिक कार्यक्रम से संबंधित सामग्रियो की आपूर्ति।
- पुस्तकालय की एव सन्दर्भ पुस्तको की व्यवस्था आपूर्ति।

अन्य सुविधाएँ : 'अन्य सुविधाओं' के अन्तर्गत इन्हें रखा जा सकता है-

- पेय जल की सुविधा।
- स्वच्छता संबंधी सुविधा।
- शाला की वर्दी की आपूर्ति की सुविधा।
- मध्याह्न भोजन की व्यवस्था।
- आवासीय सुविधा।
- दर्पण, कंघी, साबुन, तौलियो की व्यवस्था।
- पुरस्कार एव छात्रवृत्ति की व्यवस्था।
- ऐतिहासिक, भौगोलिक एव पौराणिक स्थानो के परिभ्रमण एव परिदर्शन की व्यवस्था।

नामांकन हेतु आवश्यक कदम

सर्वजनीन शिक्षा के लिए प्रथम चरण नामांकन का है जिसके महत्व को नकारा नहीं जा सकता। इसके लिए विद्यालयीय क्षेत्र के 0-14 वर्ष की आयु के बच्चे-बच्चियो का सर्वेक्षण प्रधानाध्यापक शिक्षको को क्षेत्र बाँटकर करवा लेंगे।

सर्वेक्षण हेतु निम्नांकित बिन्दु आवश्यक हैं-

- ☐ गाँव
- ☐ टोला
- ☐ क्रमांक
- ☐ मुखिया/घर के मालिक का नाम
- ☐ बच्चा/बच्चों का नाम
- ☐ लिंग
- ☐ उम्र
- ☐ कोटि (हरिजन/आदिवासी/पिछडा/सामान्य)
- ☐ पढते हैं या नहीं
- ☐ पढ़ते हैं तो किस विद्यालय में पढते हैं
- ☐ किस कक्षा में पढते हैं
- ☐ नहीं पढते हैं तो क्या कारण हैं
- ☐ पिता या अभिभावक की वार्षिक आय
- ☐ माता-पिता की शैक्षिक योग्यता
- ☐ माता-पिता का पेशा

प्रत्येक वर्ष नामाकन-अभियान चलाने की आवश्यकता है, जिसे चलाने के संबंध में विभाग द्वारा जारी निम्नाकित परिपत्र उल्लेखनीय हैं-

1. नि.शुल्क अनिवार्य प्रारंभिक शिक्षा के कार्यान्वियन हेतु निदेश-
   - ☐ 6-14 उम्र-समूह के नामाकन का लक्ष्य-निर्धारण।
   - ☐ विद्यालय हेतु पुस्तिका-प्रपत्र तैयार करना।
   - ☐ छात्रवृद्धि-अभियान के लिए कदम उठाना।
   - ☐ पाक्षिक प्रतिवेदन देना।
   - ☐ शिक्षा-स्तर की रूप-रेखा एवं योजना तैयार करना।
   - ☐ विकास एवं प्रतिधारण की योजना तैयार करना।
   - ☐ विकास हेतु दान सग्रह करना एवं प्रतिवेदन देना।
   - ☐ नामांकन एवं वर्ग-व्यवस्था में अभिरुचि लेना।
   - ☐ बाल वर्ग की व्यवस्था अलग से करना।
   - ☐ शिक्षा-प्रचार के कार्यों को करना।
2. नामांकन अभियान को प्रभावी ढंग से सम्पन्न कराने हेतु निदेश-
   - ☐ लक्ष्य-प्राप्ति के प्रतिशत पर प्रोत्साहन एवं दंड।
   - ☐ पाक्षिक प्रगति-प्रतिवेदन।
   - ☐ पाक्षिक समीक्षा।
3. छात्रवृद्धि-अभियान हेतु निदेश-
   - ☐ सामुदायिक सहभागिता।
   - ☐ निगरानी-सह-विकास समिति का पुनर्गठन।
   - ☐ जन-जागरण।
   - ☐ प्रखड स्तरीय उप समिति द्वारा निरीक्षण।
   - ☐ सर्वांगीण विकास हेतु परामदर्शदात्री समिति का गठन।

प्रतिधारण हेतु आवश्यक कदम

'विद्यालयों मे नामांकित छात्र बने रहें,' ऐसे प्रतिधारण के लिए निम्नांकित आवश्यक कदम उठाना अपेक्षित है-

छात्रोपस्थिति की जाँच (नियमित उपस्थिति)

- ☐ पूरे विद्यालयीय क्षेत्र को शिक्षको के बीच बाँट दिया जाए।
- ☐ प्रत्येक शिक्षक अपने आवटित कार्य-क्षेत्र में निवास करने वाले छात्रों की सूची रखे।
- ☐ प्रत्येक क्षेत्र के लिए छात्रों में से एक नायक और एक उप-नायक नियुक्त किया जाए।
- ☐ प्रत्येक नायक और उपनायक के पास एक छोटी सी नोट बुक में उसी तरह की सूची रहेगी जैसा कि शिक्षक अपने पास रखें।
- ☐ विद्यालय का काम शुरू होने के समय छात्र क्षेत्र वार खड़े हों।
- ☐ प्रत्येक नायक अपने क्षेत्र के सभी लड़कों के सबसे आगे और उपनायक सबसे पीछे खड़ा हो।
- ☐ उपनायक लडकों की गिनती करके उपस्थित लडकों की संख्या नायक को बताए।
- ☐ नायकों के आगे संबद्ध/प्रभारी शिक्षक खडे हो।
- ☐ प्रत्येक नायक प्रभारी शिक्षक को छात्रोपस्थिति की सूचना दें।
- ☐ प्रभारी शिक्षक अनुपस्थित छात्रो के संबंध में नायक से पूछताछ कर लें।
- ☐ प्रत्येक प्रभारी शिक्षक छात्रोपस्थिति की सूचना प्रधानाध्यापक को दें और इसके साथ ही कौन-कौन छात्र अनुपस्थित हैं, इसकी भी सूचना दे दें।

- ☐ अनुपस्थित छात्रो से प्रभारी शिक्षक समय निकालकर सम्पर्क करें ताकि वे छात्र दूसरे ही दिन विद्यालय आ जाएं एवं अकारण अनुपस्थित न रहे।
- ☐ जिस टोले/क्षेत्र की सबसे अच्छी उपस्थिति, पूरे माह भर रहे, उसे एक 'उपस्थिति ध्वज' प्रदान किया जाए।
- ☐ छात्र विद्यालय में नियमित रूप से उपस्थित होते रहे, इसके लिए शिक्षक अभिभावकों से भी सम्पर्क बनाए रखे।
- ☐ प्रत्येक शिक्षक अपने क्षेत्र के छात्र-छात्राओ की वैयक्तिक सफाई का भी निरीक्षण कर लें एवं आवश्यक हो तो आवश्यक निर्देश दे दें।
- ☐ माह के अंत में प्रत्येक विद्यालय से छात्र-सख्या एव औसत उपस्थिति के संबध मे प्रतिवेदन प्रधानाध्यापक से निरीक्षी पदाधिकारी प्राप्त करे एवं उसके अनुसार अपने कार्यालय के लिए तैयार करें।

नियमित शिक्षण एवं उपस्थिति हेतु निदेश- दोषी व्यक्ति कार्यवाही अधीन, निलंबित एव दंड के भागी होंगे। उनका वेतन भी रोका जा सकता है।

शिक्षण-कार्य को प्रभावी बनाने हेतु निदेश

- ☐ गुरु-गोष्ठियों का आयोजन, प्रदर्शन-पाठ एव शिक्षण कार्य की तैयारी।
- ☐ पाठ-टीका का लिखा जाना।
- ☐ वार्षिक पाठ-योजना, प्रदर्शन-पाठ एवं सुचारू रूप से शिक्षण-कार्य हेतु निदेश।

दोषी व्यक्तियों की चरित्र-पुस्तिका मे प्रतिकूल अभ्युक्तियाँ अकित होगी।

निरीक्षण को अधिक प्रभावी बनाने के लिए शिक्षकों के वेतन-विपत्र के द्वारा प्रतिहस्ताक्षरण की पुरानी पद्धति पुन. लागू की जाए।

सहयोग एव नियत्रण हेतु निदेश

- ☐ ग्राम-शिक्षा-समिति का गठन
- ☐ गोपनीय चरित्र-पुस्तिका लिखा जाना

  अच्छे काम नहीं करने पर सेवा-सम्पुष्टि एवं प्रोन्नति नहीं।

पाठ-सह अतिरिक्त क्रियाशीलन- बाल प्रतियोगिता, अन्य प्रतियोगिता, खेल प्रतियोगिता, नामांकन प्रतियोगिता, उपस्थिति प्रतियोगिता, सफाई प्रतियोगिता आदि का संचालन। हर विद्यालय के सामने नामपट्ट रखना।

खाईनुमा घेरा बनाकर तुरन्त लगने वाला पौधा लगाना। दैनिक सामूहिक प्रार्थना एव दैनिक सफाई में छात्रों का भाग लेना। मूल्याकन एवं खाईनुमा शौचालय का निर्माण करना। छात्रों की रचनाओ को सशोधित करना एवं सुन्दर सुडौल अक्षरों के लिए प्रयास करना। प्रत्येक प्रतियोगिता के लिए विजयी विद्यालयों को पताकाएँ देना।

छात्रों को अन्य सुविधाएँ

- ☐ डोम और मुशहर के बच्चो को दी जाने वाली छात्रवृत्ति को नियमित रूप से लागू करने के लिए सचेष्ट रहना।
- ☐ हरिजन, आदिवासी छात्रों को मिलने वाली पोशाक का वितरण कराने के लिए सचेष्ट रहना ताकि उन्हे पोशाक यथासमय उपलब्ध हो सके।
- ☐ यथासंभव मध्याह्न भोजन की व्यवस्था करना।
- ☐ सुसम्पन्न ग्रामीण जनता द्वारा किसी छात्र को अगीकार कर उसका दायित्व लेने के लिए प्रोत्साहित करना।
- ☐ बिहार शिक्षा परियोजना क्षेत्र में मिलने वाली सुविधाओ को विद्यालयीय बच्चों को उपलब्ध कराने में सचेष्ट रहना।

लीक से हटकर बिहार मे दो परियोजनाएँ सचालित की जा रही हैं। एक, चरवाहा विद्यालय और दूसरी, बिहार शिक्षा-परियोजना।

इन परियोजनाओं में भी निरीक्षी पदाधिकारियों एवं विद्यालय के प्रधानाध्यापको एव शिक्षकों पर नए ढग के दायित्व सौंपे गए हैं। इन परियोजनाओं का भी उद्देश्य प्राथमिक शिक्षा को सर्वजनीन बनाने के साथ-साथ शिक्षण के स्तर को ऊँचा उठाना है। इसलिए इन परियोजनाओं के लिए जो कार्यक्रम सचालित किए जा रहे हैं उनमें भी निरीक्षी पदाधिकारियो तथा शिक्षको को अपना दायित्व निभाने के लिए मानसिक रूप से तैयार रहने की आवश्यकता है।

संगठनात्मक ढाँचा-शैक्षिक एव प्रशासनिक – युगों से चली आ रही शिक्षा प्रणाली को एक नई दिशा देने के लिए राष्ट्रीय शिक्षा-नीति 1986 अपनाई गई। बिहार सम्पूर्ण राष्ट्र का एक महत्वपूर्ण अंग है। ऐतिहासिक एव भौगोलिक दृष्टि से भी इस

राज्य का अपना महत्व है। अतीत में जनक, विदुषी भारती, आर्यभट्ट, बाण जैसे मनीषी तथा नालन्दा एवं विक्रमशिला जैसे ख्यातिप्राप्त विश्वविद्यालयों की पावन भूमि रहा है बिहार राज्य। कालक्रम मे यहॉ अनेक कुरीतिया एवं कुंठाए बढी हैं उन्हें सुलझाने का प्रयास जारी है, खास तौर पर महिलाओं, हरिजन वर्ग, आर्थिक दृष्टि से पिछडे वर्ग के लोगो के संदर्भ में। वर्तमान में छीजन, बालिका-शिक्षा में माता-पिता की अरुचि, साक्षरता-खासकर महिला साक्षरता-के स्तर का अपेक्षित नहीं होना आदि शिक्षा की समस्याएँ हैं। अतएव मानवीय संभावनाओं को विकसित करने की दृष्टि से इन समस्याओ पर समग्र दृष्टि डालना आवश्यक है। प्रधानाध्यापक एव निरीक्षी पदाधिकारियो का यह दायित्व होगा कि इन पर विजय प्राप्त की जाय।

वर्तमान स्थिति

6-14 वर्ष के आयु-समूह के बच्चों के लिए राज्य मे निम्न प्रकार के विद्यालय उपलब्ध हैं-

शिक्षा विभाग द्वारा संचालित विद्यालय- इसके अन्तर्गत राजकीय एव राजकीयकृत विद्यालय आते हैं। इनकी व्यवस्था इन पर व्यय, निरीक्षण मूल्यांकन प्रस्वीकृति आदि विभागीय नियमों के अन्तर्गत होती हैं। विगत एक वर्ष से इन्हीं विद्यालयों में कार्यरत शिक्षको की सहायता से 'चरवाहा विद्यालय' प्रारभ किया गया है जिसका मुख्य उद्देश्य सुविधा वचित बच्चों को शिक्षा प्राप्त कराने तथा उन्हें अपने क्षेत्र-विशेष मे दक्षता प्राप्त करने की परिस्थिति देनी है।

चरवाहा विद्यालय योजना की परिकल्पना सर्वप्रथम वर्तमान सरकार ने की तथा राज्य के उच्च पदस्थ पदाधिकारियों की विभिन्न बैठकों में इस चरवाहा विद्यालय की अवधारणा को स्पष्ट किया गया तथा नीतिगत निर्णय लिए गए।

इस परिकल्पना के अंतर्गत कृषि विभाग के ग्रेड- 'सी' एवं सदैव घाटे में चलने वाले प्रक्षेत्र में चरवाहा विद्यालय आरंभ किया गया। इसमे पशुओं के लिए चरागाह, चरागाह क्षेत्र में कॅटीले तारों का घेरा, मछलीपालन हेतु तालाब, विद्यालय-भूमि के चारो ओर शीशम एव अन्य वृक्ष लगाने की योजना, धोबी घाट का निर्माण, विद्यालय के अन्दर लघु उद्योगो की स्थापना, छोटे-छोटे कृषि-उपकरणो का निर्माण, रेशम तथा खादी उद्योग आदि चलाने का निर्णय लिया गया है।

गरीब बच्चों हेतु पोषाहार की व्यवस्था एवं सभी के बीच, खासकर सुविधावचित वर्ग मे शिक्षा का प्रचार-प्रसार करने का प्रावधान किया गया है। प्रत्येक विभाग द्वारा उक्त परिकल्पना को साकार करने हेतु भिन्न-भिन्न कदम उठाए जा रहे हैं।

इन विद्यालयों की प्रशासनिक कडी में प्रखंड शिक्षा प्रसार पदाधिकारी, विद्यालय अवर निरीक्षक, विद्यालय उप निरीक्षिका, जिला शिक्षा उपाधीक्षक, क्षेत्रं शिक्षा पदाधिकारी, अवर प्रमंडल शिक्षा पदाधिकारी, जिला विद्यालय निरीक्षिका, जिला शिक्षा अधीक्षक एवं जिला शिक्षा पदाधिकारी आते हैं। इसमें स्थानीय उद्योग एवं कृषि पदाधिकारियो का भी सहयोग लिया जा रहा है। प्रमंडल स्तर पर क्षेत्रीय उप शिक्षा निदेशक तथा राज्य स्तर पर निदेशक, प्राथमिक शिक्षा एवं शिक्षा सचिव सह-आयुक्त हैं।

कल्याण विभाग द्वारा सचालित - ये विद्यालय पूर्णतया कल्याण विभाग के अधीन हैं। आश्रम विद्यालय, आदिवासी बालक/बालिका, उत्तर रक्षाग हो में अवस्थित विद्यालय आदि इसी विभाग द्वारा सचालित हैं। इन विद्यालयों में प्रस्वीकृति शिक्षा विभाग के नियमों के तहत ही होती है। इनका कार्यक्रम भी साधारण विद्यालयों के समान होता है।

अल्पसंख्यक विद्यालय - इनका नियंत्रण शिक्षा विभाग के अंतर्गत है, किन्तु प्रबन्धन का कार्य इनसे संबंधित प्रबन्धकारिणी समिति करती है।

स्वत्वधारी विद्यालय - इनका नियंत्रण स्वत्वधारी के जिम्मे है किन्तु इन विद्यालयों की स्थापना, अनुमति व प्रस्वीकृति शिक्षा विभाग का विषय है।

कॉन्वेन्ट विद्यालय भी इसी वर्ग के विद्यालय हैं। विभिन्न प्रतिष्ठानों द्वारा भी शिक्षण सस्थानो का संचालन हो रहा है। इसके अतिरिक्त नेतरहाट, हजारीबाग सैनिक विद्यालयों, केन्द्रीय विद्यालयों एवं नवोदय विद्यालयों का भी संचालन हो रहा है। ☐☐

बिहार शिक्षा परियोजना
पटना

बाल-केन्द्रित शिक्षा--एक परिचय

बाल केन्द्रित शिक्षा के विषय मे कुछ भी जानने से पहले हम कुछ ऐसी जगहो पर चलें जहाँ इससे संबंधित कुछ बुनियादी बातों की जानकारी हो सके।

आपने बडे शहरों में 'चिल्ड्रेन पार्क' देखे होगे। आपने पाया होगा कि वहॉ की सारी व्यवस्थाएं बच्चो के खेलने से संबंधित हैं, जैसे- स्लिपर्स, झूला, सी-सॉ आदि। यहॉ ऐसा कोई साधन नहीं होता जो बच्चों के लिए न होकर युवाओं के लिए हो। कहीं-कहीं चिल्ड्रेन पार्क मे बच्चो के मनोरजन के लिए उस प्रकार के पशु-पक्षी रखे जाते हैं जिनसे उनको भय नहीं होता। इस विवरण से स्पष्ट होता है कि ऐसे स्थल की व्यवस्थाएँ बच्चो की शारीरिक व मानसिक अवस्था को ध्यान में रखते हुए की जाती है।

एक दूसरे उदाहरण पर विचार करे। आपने 'बाल मेला' जरूर देखा होगा। यहां की सारी वस्तुए भी बच्चों की शारीरिक एवं मानसिक आवश्यकताओ के अनुकूल होती हैं, यहॉ तक कि सभी कार्यक्रम उन्हीं के मनोरंजन के लिए आयोजित होते हैं।

आपने बाल साहित्य अवश्य ही पढा होगा। यह भी अनुभव किया होगा कि इसकी सारी सामग्री (कहानियां, कविताएं, आदि) बच्चो के मानसिक विकास एव उनके मनोरंजन के अनुरूप होती हैं। यहॉ तक कि बाल फिल्में, खिलौने और शैक्षिक उपकरण भी उनकी रुचियो के अनुरूप बने होते हैं।

जब ये सभी आयोजन बाल केन्द्रित हैं तब यह निश्चित है कि उनकी शिक्षा-व्यवस्था भी बाल केन्द्रित हो। यहा हमारा अभिप्राय 6-11 वर्ष के बच्चों से है। अत उनके लिए योजना बनाते समय उनकी शारीरिक, मानसिक एवं बौद्धिक अवस्थाओं का ख्याल रखना आवश्यक होगा।

बाल केन्द्रित शिक्षा के प्रमुख उद्देश्य-

- ☐ शारीरिक तथा मानसिक दक्षताओं का पूर्ण विकास करना।
- ☐ सामाजिक कुशलताओ का विकास करना।
- ☐ भावनाओं का सरक्षण करना।
- ☐ विकास की विभिन्न अवस्थाए जानना।
- ☐ बच्चो की आवश्यकताएं समझना।
- ☐ विकास के सभी सोपानों का ख्याल रखना, और
- ☐ बच्चों की प्रतिभा को पहचानना।

बाल केन्द्रित शिक्षा की अवधारणा- यदि हम बाल केन्द्रित शिक्षा को व्यावहारिक रूप देना चाहते हैं तो निम्नांकित बिंदुओं पर ध्यान देना होगा। जैसे-

- ☐ किन्हे पढ़ाना है?
- ☐ क्या पढाना है?
- ☐ कैसे पढाना है?

किन्हे पढ़ाना?- अध्यापक के रूप में हमे अपने शिक्षार्थी को भली भांति जानना आवश्यक है। यह काम न तो बहुत सरल है और न ही बहुत कठिन। इसके लिए हमें बच्चों की क्षमताओ, रुचियों, आवश्यकताओं आदि को समझना है। 6-11 आयु-वर्ग के बच्चे वास्तविक जगत के बारे में सोचना आरभ कर देते हैं- उनके भावात्मक, वैयक्तिक और सामाजिक विकास से संबधित आवश्यकताएं उभर कर सामने आती हैं, जो निम्नवत् हैं-

- ☐ स्वीकृति - बच्चों के व्यक्तित्व को मान्यता देना।
- ☐ प्रेम तथा सुरक्षा - बच्चों को पर्याप्त स्नेह तथा विश्वास प्रदान करना।
- ☐ आत्म सम्मान - बच्चों में मर्यादा पक्ष को जाग्रत करना।

- ☐ अपनत्व का भाव - सभी बच्चों को समान रूप से अपना मानना।
- ☐ प्रेरणा - बच्चों को हमेशा उत्साहित करते रहना।
- ☐ अभिव्यक्ति - बच्चो को अपनी भावनाओं को व्यक्त करने का अवसर प्रदान करना।
- ☐ विभिन्न परिस्थितियो में अनुकूलन - परिस्थिति के अनुसार उनमें अपने को ढालने की क्षमता का विकास करना।
- ☐ सृजनशीलता - बच्चों में रचनात्मक कुशलता का विकास करना, और
- ☐ निर्णय लेने की दक्षता - अच्छे-बुरे में भेद समझना।

शिक्षा से संबंधित सभी कार्यक्रमों में उपर्युक्त बातो का ध्यान रखना आवश्यक है। नए विचारों, नई बातों या नई जानकारियों को उसी स्तर पर प्रस्तुत करना जो बच्चो के बौद्धिक विकास की अवस्था से मेल खाती हों, क्योंकि बच्चों में अवधारणा का विकास एक सोपानात्मक प्रक्रिया है।

क्या पढ़ाना है?– पाठ्य-विषय छात्रो की आवश्यकताओं, रुचियों, विकास की अवस्थाओं और दक्षताओ पर आधारित होना चाहिए जिससे वे आवश्यक दक्षता, ज्ञान, दृष्टिकोण एवं मूल्य प्राप्त कर सकें। शिक्षा का उद्देश्य केवल ज्ञान प्राप्त करना न होकर सर्वांगीण विकास होना चाहिए। अत. पाठ्यक्रम में ज्ञान, दक्षता, दृष्टिकोण, नैतिक एव आध्यात्मिक मूल्य, सौदर्य-बोध और कार्यानुभव जैसे पहलुओं का समावेश होना चाहिए।

प्रत्येक बच्चा अपने आप में विशिष्ट होता है। इसकी कुछ खूबियां और खामियां होती हैं। इसका यह मतलब नहीं कि विभिन्न बच्चो के लिए विभिन्न पाठ्यक्रम होने चाहिए, बल्कि इसका अभिप्राय यह है कि सबके लिए पाठ्यक्रम एक होते हुए भी उसके विनिमयन की प्रक्रिया और सामग्री भिन्न-भिन्न होनी चाहिए। दूसरे शब्दों में यो कहा जा सकता है कि बच्चों की आवश्यकताओं, क्षेत्रीय संस्कृति तथा विशेषताओं को ध्यान में रखकर पाठ्यक्रम पर अमल किया जाना चाहिए। जैसे, पहली कक्षा का भाषा विषयक पाठ्यक्रम सभी क्षेत्रों के लिए समान होगा, परंतु पठन-पाठन सामग्री, यथा- कहानियां, कविताए, पुस्तकें और चार्ट भिन्न होगे।

यहाँ इस बात का जिक्र करना अनिवार्य है कि न्यूनतम अधिगम स्तर का निर्धारण सभी बच्चों को एक समान शिक्षा देने के उद्देश्य से किया गया है, चाहे वे किसी भी जाति, रंग-रूप, स्थान या लिंग आदि के क्यों न हों। साथ ही शिक्षा के तुलनीय स्तर तक उनकी पहुच भी हो यह भी इसका लक्ष्य है। न्यूनतम अधिगम स्तर के निर्धारण-क्रम में निम्नांकित बाते ध्यान में रखी गई हैं-

- ☐ विभिन्न विकासात्मक स्तरों के अनुरूप विभिन्न कक्षाओ या श्रेणियों के बच्चों की संज्ञानात्मक दक्षताएं।
- ☐ परिवेशगत दशाओं के रूप में आनुभविक वास्तविकता। इसके अतिरिक्त इस बात पर भी ध्यान रखा गया है कि न्यूनतम अधिगम स्तर सम्प्राप्य, बोधगम्य और मूल्याकन योग्य हो।

कैसे पढ़ाना है?– बाल केन्द्रित शिक्षा के तहत अपेक्षित अधिगम तभी संभव हैं जब उन्हें उपयुक्त अधिगम परिस्थिति उपलब्ध कराई जाए। यह परिस्थिति वर्ग के अंदर या बाहर हो सकती है। जब अधिगम परिस्थिति निम्नांकित विशेषताओं से युक्त होती है तो अधिगम को बढ़ावा मिलता है-

- ☐ साफ सुथरी
- ☐ प्रेरणादायक
- ☐ सुसंगठित
- ☐ आवश्यक उपकरण
- ☐ स्वयं करके सीखने का अवसर
- ☐ प्यार तथा अपनत्व का वातावरण
- ☐ शिक्षक के व्यवहार में माधुर्य

अधिगम प्रक्रिया को प्रभावी बनाने हेतु शिक्षक को निम्नाकित बिंदुओं पर ध्यान देना होगा-

- ☐ अधिगम हो रहा है या नहीं, यह सुनिश्चित करना।
- ☐ जानकारी देने के साथ-साथ समझ विकसित करना।
- ☐ स्मरण कराने के साथ-साथ रचनात्मक सोच को बढ़ावा देना।
- ☐ बच्चों की रुचियो को जानना।
- ☐ स्वाध्याय की आदत विकसित करना।
- ☐ बच्चों में खोज की प्रवृत्ति जाग्रत करना, और

- शिक्षक को मार्गदर्शक के रूप में कार्य करना।

बाल केन्द्रित शिक्षा की अवधारणा के अनुकूल शिक्षण कार्य करने के लिए शिक्षक को अपने दृष्टिकोण तथा अध्यापन शैली में परिवर्तन लाना होगा। इसके लिए उन्हें निम्नांकित कार्य करने होंगे-

- पाठ से संबंधित पूर्व जानकारी का पता करना।
- प्रश्नों का सही उत्तर प्राप्त नहीं होने की स्थिति में आवश्यकतानुसार सहयोग कर सही उत्तर तक पहुंचने में मदद करना।
- सही उत्तर मिलने पर शाबासी देना, और
- किसी भी परिस्थिति में हतोत्साहित नहीं करना।

विषय प्रवेश कैसे करें– यहाँ ध्यान देने योग्य बात यह है कि आप किस विषय का अध्यापन करने जा रहे हैं। आपका विषय-प्रवेश उसके अनुकूल ही होगा। मार्गदर्शन के तौर पर विभिन्न विषयों से संबंधित विषय-प्रवेश के उदाहरण नीचे दिए जा रहे है-

1. भाषा – इसमें आप भाषा की कुशलताओं पर बल देंगे।
2. गणित – दक्षताओं पर आधारित क्रियाकलाप आयोजित करेंगे ताकि बच्चों में समस्या-समाधान की योग्यता विकसित हो।
3. पर्यावरण अध्ययन – इसमें आप विषय के अनुरूप अधिगम परिस्थिति प्रदान कर बच्चों को उनके अनुभव के आधार पर सीखने का अवसर प्रदान करेंगे।

विषय वस्तु के अनुसार शिक्षण में जांच-खोज पद्धति अपनाने पर बच्चों को सीखने तथा अपनी मानसिक कुशलता को व्यवहार मे लाने का अवसर मिलता है। खोजोन्मुखी अधिगम प्रक्रिया से बच्चों में परिकल्पना की दक्षता, निरीक्षण की क्षमता तथा निष्कर्ष निकालने की योग्यता बढती है।

समस्याओ को हल करने वाली गतिविधियों या क्रियाकलापों से बच्चों की प्रतिभागिता बढ़ती है। अत: शिक्षण ऐसा हो कि बच्चों को कुछ खोजना पडे या किसी समस्या का हल ढूंढना पड़े, जिसमें अध्यापक का सिर्फ मार्गदर्शन ही प्राप्त हो।

भिन्न-भिन्न बच्चे भिन्न-भिन्न तरीकों से सीखते हैं। कुछ बच्चे जल्दी सीखते हैं और कुछ बच्चे धीमी गति से सीखते हैं, इसका ख्याल रखना होगा। जो बच्चे जल्दी सीखते हैं, उन्हें शिक्षण कार्यक्रम में सहयोगी बना लेना चाहिए। ऐसा करने में सामान्य गति से सीखने वाले बच्चे प्रोत्साहित होंगे और अन्य बच्चों के उपचारात्मक शिक्षण में सहयोग मिलेगा। धीमी गति से सीखने वाले बच्चों के लिए आवश्यकतानुसार छोटे-छोटे दल बना लेने होंगे। शिक्षक उन्हे आवश्यकतानुसार न्यूनतम अधिगम स्तर तक लाने का प्रयास करेंगे।

मूल्यांकन कैसे करें– जैसा कि मालूम है, बाल केन्द्रित शिक्षा का उद्देश्य विकास के सभी पहलुओं से संबंधित दक्षताओं का विकास करना है, अत मूल्यार्कन दक्षताओं की सम्प्राप्ति के अनूकूल होना चाहिए। कक्षा 1 व 2 में भाषा शिक्षण के संबंध में यह बात कही गई है कि बच्चों में विभिन्न अक्षरों के मेल से बने शब्दों को अर्थ सहित पढने की योग्यता होनी चाहिए। इसकी जांच उन पुस्तको के आधार पर नहीं की जानी चाहिए, जिन्हे बच्चे अपनी कक्षा में पढ़ते हैं, बल्कि इसकी जाच नई पाठ्य सामग्री देकर करनी चाहिए।

विकास के सभी पहलुओं, यथा- ज्ञान, कौशल, दक्षता (सामाजिक, नैतिक, भावात्मक) आदि का मूल्यांकन किया जाना चाहिए ताकि समग्र रूप में मूल्यांकन संभव हो सके। वर्तमान रिपोर्ट-कार्ड-प्रथा, जिसमें मूल्यांकन सिर्फ अंक या प्रतिशत के रूप मे विषयवार किया जाता है- दोषपूर्ण है, क्योकि एक तो इसमें असज्ञानात्मक पहलुओं के मूल्याकन का कोई स्थान ही नहीं है और दूसरे प्राप्तांकों की तुलना के आधार पर अधिकांश बच्चो में हीनता का भाव आता है।। इसलिए मूल्यांकन पद्धति ऐसी होनी चाहिए, जिसमें अन्य छात्रो के साथ तुलना के बजाए उसके पूर्व की सम्प्राप्ति के क्रम में तुलना हो। ऐसा होने से बच्चों में सकारात्मक दृष्टिकोण विकसित होगा और वे अपनी कमियों को दूर करने की ओर उन्मुख होंगे इसमें अभिभावक ही अपने बच्चो का निदानात्मक परीक्षण कर पाएंगे और तदनुकूल उपचारात्मक शिक्षण की व्यवस्था भी संभव होगी। इस तरह कहा जा सकता है कि मूल्यांकन 'रैंक और ग्रेड' पर आधारित न होकर उसके पूर्व की सम्प्राप्ति के क्रम में होना चाहिए।

क्या प्राप्त करें– वर्तमान व्यवस्था में शिक्षकों को किसी तरह कोर्स पूरा कर देने की मजबूरी रहती है। इससे कभी भी शिक्षा में गुणात्मक सुधार की आशा नहीं की जा सकती। प्राथमिक

शिक्षा में गुणवत्ता आए इस हेतु न्यूनतम अधिगम स्तर का निर्धारण किया गया है। अत. अब आवश्यक होगा कि बच्चों की सम्प्राप्ति का मूल्यांकन न्यूनतम अधिगम स्तर के आलोक मे किया जाए।

शिक्षक स्वयं को जानें- शिक्षकों को सबोधित कर नीचे कुछ प्रश्न पूछे जा रहे हैं। इन प्रश्नो का उत्तर शिक्षक स्वयं से पूछें। हर प्रश्न का उत्तर अपनी डायरी या किसी कागज पर अंकित करें।

1 कक्षा में छात्र केन्द्रित दृष्टिकोण अपनाने से आपका क्या अर्थ है?

2 आप अब तक किसी शिक्षण-पद्धति या नीति का प्रयोग करते रहे है?

3 क्या आप अपनी शिक्षण पद्धति या नीति से अब सतुष्ट हैं?

4. अब तक आपका दृष्टिकोण छात्र केन्द्रित रहा है या शिक्षक केन्द्रित?

5. क्या आप बच्चों के विकास संबंधी आवश्यकताओ की जानकारी रखते हैं? यदि हाँ, तो क्या?

6 आप बच्चों में जिज्ञासा कौशल का विकास कैसे करेंगे?

7. क्या आप विभिन्न बच्चों में भिन्नताओं की पहचान करते हैं? यदि हां, तो उन्हें समान स्तर की उपलब्धि कराने के लिए क्या व्यवस्था करते हैं?

8. क्या आप अधिगम प्रक्रिया में बच्चों की प्रतिभागिता प्राप्त करते है? यदि हाँ, तो कैसे?

9. किसी पाठ को पढ़ाने के बाद क्या यह जानने का प्रयास करते हैं कि बच्चो ने इसे पूरी तरह सीखा या नहीं? यदि हॉ, तो अपने प्रयास का उल्लेख करे।

10. आप अधिगम संबंधी कमियों के उपचार के लिए क्या करते हैं? इसका विवरण दें।

11. क्या आप यह मानते हैं कि प्रत्येक बच्चा अपने आप में एक सभावना है और संसाधन भी?

12. क्या आप बाल केन्द्रित शिक्षा की अवधारणा के अनुकूल विषयवार शिक्षण कार्य करते हैं?

उपर्युक्त प्रश्नों के उत्तर शिक्षकों को स्वत· बाल केन्द्रित शिक्षा से सबधित द ष्टिकोण तथा रणनीति तय करने में सहायक होंगे।

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बिहार शिक्षा परियोजना
पटना

सर्वव्यापी मूल्यांकन

सामान्यत परीक्षा, योग्यता-निर्धारण, मापन-मूल्याकन आदि का प्रयोग समानार्थी शब्द के रूप मे किया जाता रहा है। किन्तु सूक्ष्मता से विचार करने पर इन सभी पदो में मूल्यांकन सर्वाधिक व्यापक अर्थ वाला पद है। अब तक शिक्षक अध्यापन-प्रक्रिया को समाप्त करने के पश्चात् कुछ छात्रो से कुछ प्रश्न पूछ कर संतुष्ट हो रहे हैं और उन्हे उत्तीर्ण अथवा अनुत्तीर्ण घोषित करते रहे हैं। सिद्धान्त रूप में (0-100) काम में लाया जाता है किन्तु व्यवहार में गणित, विज्ञान जैसे कुछ विषयो को छोडकर शायद ही किसी विषय में 70-75 से अधिक अंक छात्रों को मिलते हों। उन विषयों मे छात्रों की उपलब्धि सामान्यत "0" भी नहीं होती। अत व्यवहार मे 10-75 तक ही अक छात्रों को अधिकांश विषयों में दिए जाते हैं।

मापन का प्रयोग प्राय. छात्रों की मनोवैज्ञानिक जॉच आदि में किया जाता है।

उपर्युक्त परीक्षा एव जॉच प्राय· लिखित होती है और प्रथम वर्ष के अंत से ही शुरू हो जाती है। हम शिक्षाक्रम को मोटे तौर पर दो पक्षो-सज्ञानात्मक और असज्ञानात्मक-मे बाँटते है। संज्ञानात्मक पक्ष में परम्परागत विषय-भाषा, गणित, विज्ञान और समाज अध्ययन-को समाविष्ट करते हैं और असज्ञानात्मक पक्ष में शारीरिक शिक्षा, कला, संगीत, समाजोपयोगी उत्पादक कार्य एवं व्यक्तित्व विकास के अन्य पहलुओं पर विचार करते हैं। इनमे उपलब्धि का समान स्तर निर्धारित करना कठिन होता है और व्यक्तिगत उपलब्धि की समानता उतनी ही महत्वपूर्ण होती है जितनी उसकी विविधता।

मूल्याकन के मानदड शिक्षा की प्रक्रिया (शैक्षिक ससाधनो के उपयोग, शैक्षिक अनुभवो की उपलब्धि) से नि:सृत हो सकती है अथवा व्यापक परिप्रेक्ष्य मे सामाजिक मान्यताओं, कार्यक्रम के लक्ष्यों आदि से प्राप्त हो सकती है।

इस अर्थ में मूल्यांकन या तो सारे कार्यक्रम का हो सकता है अथवा व्यक्तिगत रूप से छात्रों की उपलब्धि का।

समय को ध्यान में रखने पर मूल्यांकन या तो शिक्षा की प्रक्रिया के साथ-साथ सतत चल सकता है और उस प्रक्रिया को अधिक उपयोगी बनाने के काम आ सकता है, अथवा शिक्षा सत्र की समाप्ति के अनन्तर किया जाता है। यह शिक्षण सामग्री, उसके उपयोग की प्रक्रिया, शिक्षक-छात्र अन्योन्य क्रिया और पूर्व निर्धारित लक्ष्य के सन्दर्भ मे किया जाता है। विभिन्न विषयो, क्रियाओं का मूल्यांकन यदि समेकित कर दिया जाए और छात्र के विकास की अवस्था का निर्धारण कर दिया जाए तथा इसके आधार पर कार्यक्रम, लक्ष्यों, सामग्री के स्वरूप और शिक्षण-प्रक्रिया में सुधार किया जाए तो मूल्याकन की उपयोगिता स्वत सिद्ध हो जाती है। इस रूप में यह अनुपोषण की प्रक्रिया में सहायक होता है।

मूल्यांकन की प्रक्रिया से पूरा लाभ उठाने के लिए इसे एक सतत प्रक्रिया का रूप देना होगा। एतदर्थ इसके विभिन्न स्वरूपो पर किंचित विचार आवश्यक होगा।

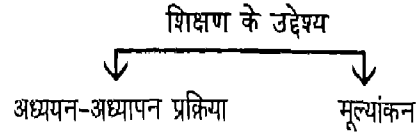
किसी इकाई के अध्यापन के पूर्व छात्रों के लिए कक्षा स्तर पूर्व परीक्षण किया जाना चाहिए। इसमें विषय से सम्बद्ध कुछ ऐसे प्रश्न पूछे जाते हैं, जिनके संबंध में यह अपेक्षा रहती है कि छात्रों को इनकी जानकारी होनी चाहिए। उदाहरणस्वरूप परिवेश के सन्दर्भ में अपनी भलाई समझने की दक्षता के पाठ के अध्यापन से पूर्व उसके धर और पास-पड़ोस के परिवेश (सामाजिक और प्राकृतिक) से संबधित प्रश्न पूछे जा सकते हैं। यथा-तुम्हारे घर में कौन-कौन लोग हैं? उनमें कौन लोग तुम्हारे भोजन, वस्तु आदि की व्यवस्था करते हैं? कौन तुम्हारी सफाई पर ध्यान देते हैं? आदि।

किसी इकाई का अध्यापन समाप्त करने के पश्चात उसकी

उपलब्धि की जॉच इकाई-परीक्षण के आधार पर करते हैं। इसके लिए पहले ही एक "ब्लू प्रिंट" (खाका) तैयार कर लेना होता है। इसमें प्राप्त नए ज्ञान, नई अर्जित कुशलता (दक्षता) और अभिवृत्तियों में हुए परिवर्तन से सम्बद्ध प्रश्न होते हैं। अध्यापन काल में जिस पक्ष पर अधिक बल दिया गया है, उसके संबध मे अधिक प्रश्न पूछते हैं। इस प्रक्रिया की दूसरी बडी विशेषता यह है कि ये प्रश्न सभी छात्रो से पूछे जाते हैं और यदि कोई छात्र सभी प्रश्नों के उत्तर नहीं दे पाता तो उसे पुन: उस विषय को अधिक स्पष्ट रूप से पढाकर प्रश्न पूछे जाते हैं। इसका उद्देश्य यह होता है कि छात्र न्यूनतम अधिगम स्तर की उपलब्धि प्राप्त कर ले।

ब्लू प्रिंट मे प्रश्नो के अंको के विभाजन पर भी ध्यान देते हैं। दक्षता-आधारित शिक्षण मे मूल्यांकन सदैव अर्जित कुशलता के सन्दर्भ मे होता है। इसलिए विभिन्न प्रकार के प्रश्नो के लिए समय भी निर्धारित कर देते हैं।

मूल्यांकन की तीसरी प्रक्रिया सत्र के अंत मे मूल्यांकन है। इसका उद्देश्य योग्यतानुसार छात्रों का वर्गीकरण करना नहीं होता है, बल्कि इसका उद्देश्य यह जानना होता है कि पूरे पाठ्यक्रम में छात्रो के अधिगम में कहाँ-कहाँ कमी रह गई और इस कारण ऐसा करने पर भी उसका सही निराकरण हो सकता है। इस प्रकार स्पष्ट होगा कि मूल्यांकन अध्ययन-अध्यापन प्रक्रिया का महत्वपूर्ण अग है। इसे नीचे के रेखा-चित्र से स्पष्ट किया गया है-

प्रत्येक छात्र के अधिगम की अपनी सीमाएँ और विशिष्टताएँ होती हैं। इसलिए मूल्यांकन छात्र की क्षमता, परिस्थिति, आदि को ध्यान में रखकर किया जाना चाहिए। उपर्युक्त खाका-चित्र मे दोनों ओर गति दर्शाने के संकेत हैं। इसका तात्पर्य है कि सारी प्रक्रिया को समन्वित रूप मे देखा जाना चाहिए।

छात्रों की असज्ञानात्मक पक्ष की उपलब्धि के मूल्याकन का मुख्य आधार अवलोकन और उस क्रम में शिक्षक द्वारा रखा जाने वाला अभिलेख होता है। अत: शिक्षको को प्रत्येक छात्र का वैयक्तिक विकास संबधी अभिलेख अवश्य रखना चाहिए और उसमे उसकी विशिष्टताओ को अकित करना चाहिए। उसे वर्ग मे (6 से 8 तक) के छात्रों को दैनन्दिनी रखने के लिए प्रोत्साहित किया जाना चाहिए।

शिक्षक को ध्यान रखना है कि अब की परिस्थिति मे महत्त्व उत्तीर्ण-अनुत्तीर्ण होने का नहीं है, बल्कि छात्रों की विशिष्टता के विकास का है।

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बिहार शिक्षा परियोजना
पटना

बालवाड़ी अध्यापिकाओं की स्थिति एवं समस्याओं का अध्ययन

□ हंसराज पाल
□ सीमा तिवारी

बालक की शिक्षा जन्म के साथ ही प्रारम्भ हो जाती है और जीवनपर्यन्त चलती रहती है। बालक माता की गोद में ही बहुत कुछ सीख जाता है। माता-पिता तथा परिवार के सदस्य बालक के विकास में पूर्ण सहयोग करते है। जन्म के समय बालक केवल स्तनपान करता है। उसके पश्चात् धीरे-धीरे उम्र बढने के साथ-साथ वह अपने अनुभवो और स्वप्रयत्नो से धीरे-धीरे सीखता जाता है। बालक के जीवन के प्रथम ढाई, तीन वर्ष, उसके घर में परिवार के साथ व्यतीत होते हैं। इस आयु तक बालक खाना-पीना, चलना, बोलना, मलमूत्र त्याग की क्रियाओं पर नियंत्रण करना सीख जाता है। इसके पश्चात् वह अपने विचार भी टूटे-फूटे शब्दो में व्यक्त करने लगता है। पर अपने विचार वह किसके साथ बांटे? माता-पिता के पास न तो इतना समय होता है कि वे बालक के साथ सारा समय रहे और न ही वर्तमान समय में परिवार इतने बड़े होते हैं कि बालक अपने विचार परिवार वालों के सामने व्यक्त कर सके। इसके लिए ऐसे स्थान की आवश्यकता महसूस की गई जहा ढाई से छ वर्ष की उम्र के बालक, बालिकाएं अपने हम उम्र साथियों के साथ विचारों का आदान प्रदान कर सकें, उनके साथ खेल सके। इस उम्र का बालक गीली मिट्‌टी के समान होता है। जिस प्रकार कुम्हार गीली मिट्‌टी को जिस आकार मे चाहे ढाल सकता है, उसी प्रकार बालक को भी हम जैसा चाहे वैसा बना सकते हैं और यह कार्य शिक्षा द्वारा ही सभव है।

प्रसिद्ध मनोवैज्ञानिक पियाजे ने बताया कि बालक के जीवन के प्रारंभिक वर्ष शारीरिक, बौद्धिक, भावनात्मक एवं सामाजिक विकास की दृष्टि से अत्यन्त महत्वपूर्ण होते है। अत. पूर्व-प्राथमिक शिक्षा को बालक की सम्पूर्ण शिक्षा का आधार माना जाता है। देश के-

अ. गरीब परिवारो के माता-पिता दोनो ही अपनी आजीविका कमाने में व्यस्त रहते हैं,

ब. मध्यमवर्गीय परिवारो के माता-पिता अपने जीवन-स्तर को ऊंचा उठाने में लगे रहते हैं, एवं

स धनाढ्य वर्ग अपने बच्चों को नौकरों के भरोसे छोड़कर उत्तरदायित्व से मुक्त हो जाते हैं।

वर्तमान में शहरीकरण, आधुनिकता औद्योगीकरण एवं पश्चिमी प्रभाव के कारण भी संयुक्त परिवार विघटित होकर एकाकी परिवार मे परिवर्तित हो रहे हैं। गृहस्थी की गाडी चलाने के लिए एवं अधिक से अधिक भौतिक सुख-सुविधाओं को प्राप्त करने के लिए पति-पत्नी दोनों नौकरी करते हैं। सारा दिन घर से बाहर रहते हैं। इस कारण बच्चों का ज्ञानात्मक एवं संवेगात्मक विकास जिस गति से होना चाहिए वह नहीं हो पाता है। ऐसी स्थिति मे पूर्व-प्राथमिक विद्यालय सर्वोत्तम हैं। गरीबी के कारण कामगार महिलाओं की संख्या मे प्रतिदिन वृद्धि हो रही है। उनके सामने यही विकल्प है कि अपने बच्चो को या तो काम पर साथ में ले जाएँ या घरों मे अन्य बच्चों के साथ शैतानी करने के लिए छोड दें, जिससे उनमे गन्दी आदते पनपे। अत: इनके लिए भी पूर्व-प्राथमिक शिक्षा की आवश्यकता महसूस की गई।

प्राचीन समय में घर के बुजुर्ग व्यक्ति पूर्व-प्राथमिक शिक्षा की आवश्यकता की पूर्ति किया करते थे। किन्तु एकाकी परिवार, गरीबी एवं अशिक्षा होने से यह कार्य समाप्त-सा हो गया है। बालक प्रारम्भिक वर्षो मे जिज्ञासु होता है। वह अपने आसपास की वस्तुओ एवं घटनाओं को जानना चाहता है। वह अभिभावको से अनेक प्रश्न करना चाहता है। अत ऐसी परिस्थिति में पूर्व-प्राथमिक शिक्षा आवश्यक है।

पश्चिमी सभ्यता के प्रभाव के कारण शिक्षित महिलाएं, क्लबों, पार्टियो आदि में अपना समय व्यतीत करती हैं, बालकों

की तरफ ध्यान नहीं दे पातीं। बालक अपने हम उम्र साथियो के साथ कैसे मिले, अपने विचार कैसे व्यक्त करें, अपने पर्यावरण को कैसे जाने, ऐसे मे वे या तो नौकर के साथ रहे या खिलौनो से जी बहलाएं। ऐसी परिस्थिति में उनके व्यक्तित्व का उचित विकास नहीं हो पाता। अत. बालकों के लिए हम उम्र बालकों की संगति में उचित शिक्षण की आवश्यकता प्रतीत होती है। पूर्व-प्राथमिक शिक्षा में बालक कई प्रकार के ज्ञान तथा आदतो का विकास कर लेता है जैसे घरेलू वस्तुओं के नाम, फलो-फूलों के नाम, सब्जियों के नाम, वर्णो की पहचान, गणित के अंक, सफाई, स्वास्थ्य, आदि की समझ प्राप्त करना।

पूर्व-प्राथमिक शिक्षा, प्राथमिक शिक्षा के लिए नींव तैयार करती है। इस शिक्षा के द्वारा बालक व्यर्थ में इधर-उधर घूमने से बच जाते हैं। अत एक ऐसी संस्थागत व्यवस्था की जरूरत है जो शिशुओं की शिक्षा का दायित्व ग्रहण कर सके। लगभग 6 वर्ष तक की आयु के बच्चों के शारीरिक, मानसिक, नैतिक, सामाजिक व वैयक्तिक विकास के लिए पूर्व-प्राथमिक शिक्षा आवश्यक है। इस प्रकार की शिक्षा की व्यवस्था करके हम बच्चो को आत्माभिव्यक्ति के अवसर प्रदान करते हैं तथा उनके विकास के विभिन्न पक्षों का सुचारू विकास होता है।

वर्तमान में देश में अधिकाशत· पूर्व-प्राथमिक शिक्षा निजी संस्थान द्वारा प्रदान की जा रही है। इन्दौर में पूर्व-प्राथमिक शिक्षा के लिए ब्रिटिश शासन के सहयोग से इन्दौर विकास प्राधिकरण की तग बस्ती परियोजना के अन्तर्गत बालवाडियां प्रारंभ की गई। ये बालवाड़ियां अपने उद्देश्य प्राप्ति मे तभी सफल हो सकती हैं जबकि उनके कार्यकर्ताओं (अध्यापिकाओं) के द्वारा प्रत्यक्षित समस्याओं को दूर कर बालवाडियो का संचालन किया जाए। इसी को ध्यान मे रखकर प्रस्तुत अध्ययन किया गया।

उद्देश्य

अध्ययन के निम्न उद्देश्य थे-

1 बालवाडी अध्यापिकाओं की स्थिति ज्ञात करना।

2 बालवाड़ी अध्यापिकाओं की समस्याएं ज्ञात करना।

3. बालवाडी के सुचारू संचालन के लिए अध्यापिकाओ से सुझाव प्राप्त करना।

न्यादर्श – प्रस्तुत अध्ययन इन्दौर विकास प्राधिकारण की तंग बस्ती परियोजना के अन्तर्गत संचालित 50 बालवाड़ियों के देव न्यादर्श पर किया गया।

उपकरण – प्रस्तुत अध्ययन मे प्रदत्त संकलन हेतु प्रश्नावली का उपयोग किया गया। प्रश्नावली में बालवाडी कार्यकर्त्ता का नाम, पता, व्यवसाय, मासिक आय, परिवार की सदस्य सख्या, शिक्षित सदस्यो की संख्या, बालवाड़ी का स्थान, विद्यार्थियों की सख्या, प्रमुख समस्याएं तथा सुचारू संचालन के लिए सुझाव प्राप्त करने से सम्बन्धित प्रश्न थे।

प्रदत्त सकलन विधि – प्रस्तुत अध्ययन में प्रदत्त संकलन हेतु बालवाडी अध्यापिकाओ से घनिष्टता स्थापित कर अध्ययन का उद्देश्य स्पष्ट कर उनसे प्रश्नावली भरवाई गई। उनकी शंकाओ का समाधान किया गया।

प्रदत्त विश्लेषण - प्रदत्त विश्लेषण हेतु आवृत्ति एव प्रतिशत तथा विषयवस्तु विश्लेषण का उपयोग किया गया है।

विश्लेषण एवं विवेचना – प्रदत्तों का विश्लेषण कर तालिका 1 से 5 में प्रस्तुत किया गया है।

तालिका 1

बालवाड़ी अध्यापिकाओ के परिवार के शिक्षित सदस्यों की संख्या एवं शिक्षा को दर्शाती तालिका

क्रम सख्या	शिक्षा का स्तर	सदस्यों की संख्या
1.	प्राथमिक	37
2	माध्यमिक	58
3.	उच्चतर माध्यमिक	57
4.	उच्च शिक्षा	38

तालिका 1 को देखने से यह स्पष्ट होता है कि बालवाड़ी अध्यापिकाओं के परिवार में प्राथमिक और माध्यमिक शिक्षा प्राप्त करने वाले सदस्यो की सख्या अधिक है (152)। उच्च शिक्षा की संख्या (38) दर्शाती है कि उच्च शिक्षा प्राप्त परिवार के सदस्य बालवाड़ी के कार्यकर्त्ता बनना पसन्द नहीं करते।

तालिका 2

बालवाड़ी अध्यापिकाओं के परिवार की मासिक आय को दर्शाती तालिका

क्रम सख्या	परिवार की मासिक आय	परिवार की संख्या	प्रतिशत
1.	500 से कम	5	10
2.	501 से 1000 तक	31	62
3	1001 से 1500 तक	10	20
4.	1501 से 2000 तक	3	06
5	2000 से अधिक	1	02

उक्त तालिका को देखने से यह स्पष्ट होता है कि जिन अध्यापिकाओं के परिवारो की मासिक आय 500 से कम है ,उनकी सख्या 10 प्रतिशत है। अर्थात् ये परिवार अपनी लड़कियों को अध्यापन के लिए कम भेजते हैं। अधिक संख्या 501 से 1000 तक आय वाले 62 प्रतिशत परिवारों की है। यह लडकियां अपने परिवारों को अल्प सहायता देती हैं। ये अध्यापिकाएं निम्न वर्ग से आती हैं और आर्थिक तंगी के कारण ही अध्यापिका बनना पसन्द करती हैं।

तालिका 3

बालवाडी अध्यापिकाओं के पति/पिता के विभिन्न व्यवसायों को दर्शाती तालिका

क्रम संख्या	व्यवसाय	व्यवसाय मे कार्यरत पति/पिता की संख्या	प्रतिशत
1	श्रमिक (छुट्टी मजदूरी)	10	20
2.	नौकरी	31	62
3.	स्वयं के व्यवसाय	9	18

उक्त तालिका को देखने से स्पष्ट होता है कि जो बालवाड़ी अध्यापिकाएं कार्यरत हैं उनके पिता/पति सरकारी या प्राइवेट नौकरी में कार्यरत हैं। ऐसी अध्यापिकाओं की सख्या अल्प है, जिनके पति/पिता श्रमिक तथा व्यवसाय में हैं। इसके सम्भावित कारण अग्रलिखित हो सकते हैं-

1. बालवाड़ी अध्यापिकाए निम्न वर्ग से आती हैं।
2. बालवाड़ी अध्यापिकाओं की पारिवारिक आर्थिक स्थिति ठीक नहीं रहती।
3. अन्य कार्य न मिलने के कारण ये बालवाड़ी चलाती हैं।

तालिका 4

बालवाड़ी अध्यापिकाओं के समक्ष आने वाली समस्याओ को दर्शाती तालिका

क्रम संख्या	समस्याएँ	आवृत्ति	प्रतिशत
1.	आवास की समस्या	33	66
2.	भौतिक सुविधाए- पानी, बिजली, शौचालय, बाथरूम का अभाव	28	56
3.	स्वल्पाहार नहीं	14	28
4.	अल्प वेतन	12	24
5.	चिकित्सा सुविधा नहीं	7	14
6.	मनोरंजन का अभाव	9	18
7.	अभिभावकों से सम्पर्क न होना	5	10

उक्त तालिका को देखने से स्पष्ट होता है कि सबसे तीव्र समस्या (56-66 तक) आवास तथा भौतिक सुविधाओं जैसे पानी, बिजली, शौचालय, बाथरूम की है। इन सुविधाओं के अभाव में बालवाड़ी का सुचारू संचालन सम्भव नहीं है।

तालिका 5

बालवाड़ी अध्यापिकाओं द्वारा बालवाड़ी के सुचारू संचालन के लिये दिये गये सुझावों को दर्शाती तालिका

क्रम संख्या	सुझाव	आवृत्ति	प्रतिशत
1	बालवाडी कक्षाओं के लिए पर्याप्त स्थान हो	34	68
2.	बालकों से शिक्षण-शुल्क लिया जाए	28	56
3.	भौतिक सुविधाओं जैसे पानी, बिजली, शौचालय, बाथरूम की व्यवस्था की जाए	25	50
4.	मनोरंजन के साधन दिये जाएँ	23	46
5.	वेतन बढ़ाया जाए	18	36
6.	चिकित्सा सुविधा दी जाए	14	28

उक्त तालिका देखने से स्पष्ट होता है कि सर्वाधिक (68 प्रतिशत) सुझाव आवास से सम्बन्धित हैं। अधिकतर बालवाडिया छोटे-छोटे कमरों में चलाई जाती हैं जहां बच्चों को बैठने की पर्याप्त जगह नहीं मिल पाती। असुविधा के कारण बच्चे ध्यान केन्द्रित नहीं कर पाते। खिलौने होने के बावजूद जगह की कमी के कारण नहीं खेल पाते। □□

शिक्षा संस्थान
देवी अहिल्या विश्वविद्यालय
इन्दौर

बोझिल बस्ता

□ रविन्द्रजीत कौर गिल

"बहुत कुछ पढ़ाया जाता है, पर बहुत थोडा समझा या सीखा जाता है।" बस्ते के बोझ को कम करने के लिए गठित यशपाल समिति के प्रतिवेदन का यह कथन बच्चों के मानसिक बोझ एवं शारीरिक बोझ की ओर इंगित करता है। उक्त कथन का विश्लेषण यदि हम शैक्षिक प्रक्रिया और बच्चे के सन्दर्भ में करें तो हम बच्चे को उसकी सीखने की सहज क्षमता व प्रकृति से दूर एक कृत्रिम एवं नीरस वातावरण में शिक्षा प्राप्ति के लिए मजबूर पाते हैं।

हमने इस बस्ते के बोझ की समस्या को देखने के लिए प्राथमिक स्तर की पुस्तकों का विश्लेषण करने का निश्चय किया। विश्लेषण हेतु कक्षा 2 की केन्द्रीय शिक्षा बोर्ड द्वारा प्रस्तावित पुस्तकें-वन्डर्स ऑफ साइन्स, सोशल स्टड्डी, अभिनव हिन्दी, गुलमोहर इंग्लिश एवं मॉरल साइन्स पुस्तकों का चयन किया गया। पाठ्यपुस्तकों का विश्लेषण विषयवस्तु विश्लेषण विधि के आधार पर किया गया (यह पाया कि विभिन्न विषयों की विषयवस्तु में अन्तरव्यापनता है)। विश्लेषण के पश्चात निम्न तथ्य उभरकर आए-

- □ विभिन्न विषयों की विषयवस्तु में अन्तरव्यापनता पाई गई।
- □ सामाजिक अध्ययन एवं सामाजिक विज्ञान के 17 प्रकरणों में से 12 प्रकरणों में अन्तरव्यापनता पाई गई।
- □ विभिन्न विषयों की विषयवस्तु जैसे- सामाजिक अध्ययन एवं सामाजिक विज्ञान की विषयवस्तु में कोई सम्बन्ध नहीं दर्शाया गया है।
- □ पाठ्यपुस्तक में वर्णित उदाहरण छात्रों के आसपास के परिवेश के नहीं है।
- □ पाठ्यपुस्तकों में छात्रों के जीवन में घटित होने वाली घटनाओं का वर्णन नहीं है।
- □ विषयवस्तु का दोहराव होने से सम्भवतः विद्यार्थियों की समझ बढती है।

उपरोक्त वर्णित तथ्यों के आधार पर यह निष्कर्ष निकलता है कि पाठ्यपुस्तकें किसी अन्य तरीके से लिखी जानी चाहिए। विद्यार्थियों के बस्ते के बोझ को कम करने के लिए प्रचलित पुस्तको में संशोधन किया जाए एवं दोहराव को हटाया जाए। विषय आधारित पाठ्यपुस्तकों की विभिन्न विषयवस्तु को अन्य विषयों से सहसम्बन्धित किया जाए।

बस्ते का बोझ शारीरिक होते हुए मानसिक भी है। उक्त वर्णित सुझाव बच्चों के शारीरिक बोझ को तो कम करने में सहायक हैं किन्तु मानसिक बोझ का समाधान नहीं। प्राथमिक शिक्षा के क्षेत्र में इस उपागम से विशेष कठिनाई आती है क्योंकि प्राथमिक शिक्षक सामान्य शिक्षकों के रूप में तैयार किए जाते हैं, विषय विशेषज्ञ के रूप में नहीं। आपूर्तिकरण तथा तार्किक विवेचन आवश्यक अनुकूलन में बाधक सिद्ध होते हैं। साथ ही ज्ञान के टुकड़े-टुकड़े हो जाने के कारण उनका समुचित उपयोग नहीं हो पाता, क्योंकि अधिगम का स्थानान्तरण सरलता से तथा प्रभावी रूप से सम्भव नहीं हो पाता। अत शारीरिक बोझ के साथ ही मानसिक बोझ को भी कम करने के प्रयास की आवश्यकता है।

एशिया क्षेत्र के 90 देशों की 'प्राथमिक शिक्षा का विकास एवं भविष्य के लिए प्राथमिकताएँ' नामक रिपोर्ट में प्राथमिक शिक्षा में आमतौर से भाषा, गणित, शारीरिक शिक्षा, कला शिक्षा, नैतिक शिक्षा, जीवन कौशल आदि विषय पढ़ाए जाते हैं। डॉटरन नाम के प्रोफेसर ने यहाँ तक ढूंढ दिखाया कि दुनिया के भिन्न-भिन्न प्राथमिक स्कूलों में 352 विषय पढ़ाए जाते हैं। व्यावहारिक रूप से दुनिया के सभी देशों में प्राथमिक शिक्षा में परिवर्तन किए जा रहे हैं। जापान में पिछले कुछ वर्षों से एक नया विषय 'जीवन अनुभव' प्रारंभ किया। फिलीपीन्स में अन्य विषयों के माध्यम से 'चिन्तन' (थिंकिंग) नाम के विषय पर भी जोर दिया जा रहा है। भारत में 'पर्यावरण शिक्षा' विषय पढ़ाया जा रहा है। थाइलैण्ड में प्राथमिक शिक्षा के चार स्तम्भ रखे गए हैं बेसिक-स्किल (थाई, गणित), चारित्रिक विकास (नैतिक,कला, संगीत शिक्षा), कार्य शिक्षा (औद्योगिक कला,

गृह, अर्थशास्त्र और कृषि) और जीवन अनुभव (विज्ञान, सामाजिक अध्ययन और स्वास्थ्य)। चीन मे सौन्दर्य शिक्षा को रखा गया है। सभी देशों में भाषा शिक्षा पर लगभग 35% समय दिया जा रहा है। 65% समय अन्य विषयों के लिए है। इसी रिपोर्ट मे कहा गया है कि प्राथमिक शिक्षा के पाठ्यक्रम में लचीलेपन एवं एकीकरण को अपनाया जा रहा है। पाठ्यक्रम को मानवीय बनाने के प्रयास भी किए जा रहे हैं। जीवन अनुभव का समावेश किया जा रहा है।

भारत में मीराम्बिका, नई दिल्ली में स्थित स्कूल गतिविधि आधारित है। यह एक अनूठा प्रयोग है। पूना मे स्थित एस. पी एम. स्कूल मे एकीकृत एवं गतिविधि पर आधारित शिक्षण अधिगम प्रक्रिया है। सामाजिक अध्ययन एवं विज्ञान विषय को कार्य आधारित प्रोजेक्ट के अन्तर्गत सीखा जाता है। इसके साथ चिन्तन कौशल गतिविधियाँ एवं गणित विषय भी प्राथमिक शिक्षा मे हैं। इन स्कूलों मे पाया गया है कि बच्चे स्वतत्र वातावरण मे आनन्द लेकर सीखते हैं। बच्चों को अपना बचपन वापस मिलता है। प्राथमिक शिक्षा में गतिविधियाँ होनी चाहिए, इस पर देश के शिक्षाविदो से भी बातचीत की गई। शिक्षाविदो का भी मत है कि गतिविधि आधारित शिक्षण रोचक होता है। बच्चों द्वारा स्वयं करके देखने के कारण उन्हें समझ में जल्दी आता है और ज्यादा देर तक याद रहता है।

प्राथमिक शिक्षा में गतिविधियों के समावेश की दिशा में इन्दौर स्कूल, डेली कॉलेज, इन्दौर पब्लिक स्कूल आदि भी प्रयास कर रहे है। इन्दौर में ही आदर्श शिशु विहार, सेन्ट अपर स्कूल एवं टैगोर विद्यापीठ में हमने कार्यशालाएँ आयोजित कर शिक्षकों को गतिविधि आधारित शिक्षण की ओर उन्मुख किया। इन स्कूलों के शिक्षकों एवं प्रशासको ने इसे अपने स्कूलों में क्रियान्वित करने की दिशा में प्रयास भी शुरू कर दिए हैं।

इन सबसे यह निष्कर्ष निकलता है कि प्राथमिक शिक्षा के उद्देश्यों पर दोबारा से विचार किया जाए। विषय आधारित प्राथमिक शिक्षा को छात्र केन्द्रित शिक्षा की ओर लाया जाए। शिक्षा को एकीकृत, लचीली, गतिविधि आधारित और जीवनोन्मुख बनाकर बच्चों के बस्ते के बोझ को दूर कर रोचक एवं आनन्ददायक वातावरण का निर्माण किया जाए। □□

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विचार

प्राथमिक शिक्षा में गुणवत्ता

□ कैलाश चन्द्र नौटियाल

अकाट्य तथ्य व सर्वेक्षण स्पष्ट रूप से दर्शाते हैं कि सुदृढ, सुलभ और संदर्भगत शिक्षा आज के युग मे सामाजिक व्यक्तित्व व राष्ट्रीय विकास के लिए अत्यन्त आवश्यक है। हाल ही में विश्व बैंक की बहुचर्चित सर्वेक्षण रिपोर्ट 'द ईस्ट एशियन मिरेकल, इकोनॉमिक ग्रोथ एण्ड पब्लिक पोलिसी' मे एशियन टाइगर की संज्ञा जापान, कोरिया, थाईलैंण्ड, मलेशिया, फिलीपीन्स आदि देशों में सामाजिक समता के साथ-साथ अर्जित चमत्कारिक आर्थिक विकास में प्राथमिक शिक्षा का विशेष महत्त्व दर्शाया गया है। ये देश आज भी शिक्षा में राजकोषी व्यय का अधिकांश भाग जो कि लगभग80% है, प्रारंभिक शिक्षा पर खर्च करते हैं। प्राथमिक शिक्षा के स्तर पर इन देशों में गुणवत्ता के पहलुओ पर किसी भी प्रकार का समझौता नहीं किया जाता। प्राथमिक शिक्षा का पाठ्यक्रम व शिक्षण सामग्री विशेष रूप से सदर्भगत, स्थानीय, भौगोलिक, सामाजिक, सास्कृतिक परिवेश व विद्यार्थियों के गहन मनोवैज्ञानिक अध्ययन पर आधारित होती है। यह आश्चर्य नहीं कि इन देशों ने अल्पकाल में प्राथमिक शिक्षा सर्वव्यापीकरण में सभी विद्यालय जाने वाले बच्चों का नामांकन व पूर्ण शैक्षिक स्तर प्रदान करने में सहज सफलता प्राप्त की।

हमारे देश में स्वतंत्रता से पहले व उसके उपरान्त प्राथमिक शिक्षा के सर्वव्यापीकरण व गुणवत्ता के सन्दर्भ मे सत्ताधारियो की आधाररहित सकल्पों की भरमार रही है। फलस्वरूप स्वतत्रता के 47 वर्षो के बाद भी निरक्षरता लगातार बढ रही है। भारतीय जनगणना के ऑकडों के अनुसार निरक्षरों की संख्या 1951 में 25.3 करोड से 1991 में 32 2 करोड़ तक पहुंच गई। प्राथमिक शिक्षा के क्षेत्र में विद्यालय छोड़ने की दर, अनुत्तीर्णता दर व शिक्षा मे न्यूनतम स्तर की उपलब्धि शिक्षा क्षेत्र के आयोजको, प्रशासको व शिक्षाविदों के लिए एक भ्रामक उलझन बनी हुई है। इस सन्दर्भ मे विभिन्न सर्वेक्षणो द्वारा प्राप्त तथ्यो के आधार पर कुछ विश्लेषण प्रस्तुत किए गए हैं।

विरासत

सार्वजनिक क्षेत्र मे शिक्षा के आधारभूत सिद्धान्तो के प्रति सत्ता वर्ग के प्रशासकों व शिक्षाविदों की उदासीनता स्वतत्रता प्राप्ति के बाद और भी संक्रामक रूप से उभर आई, जिसके फलस्वरूप विद्यालय मे प्राथमिक स्तर पर नामाकन की दरे, व विद्यालय छोडने की दर, विद्यार्थियों का न्यूनतम शैक्षिक स्तर, अध्यापकों के प्रशिक्षण व विद्यालयों में निरीक्षण के प्रति उदासीनता आदि, व्यापक रूप से उजागर होती हैं।

विद्यार्थियों का नामांकन और विद्यालय बीच में छोड़ने की दरें

स्वतंत्रता के 47 वर्षों के बाद एवं शिक्षा योजनाओं में प्राथमिक शिक्षा को विशेष प्राथमिकता देने के बावजूद नामाकन दर व विद्यार्थियो के विद्यालय बीच में छोड़ने की दरे काफी निराशाजनक हैं। सरकारी आंकडो के अनुसार 1951 और 1991 के दौरान प्राथमिक व उच्चतर प्राथमिक स्तर पर विद्यार्थियों का नामांकन 2.2 करोड से 13.60 करोड़ तक बढ़ा। इसके बावजूद 6 से 14 आयु वर्ग के लगभग 50 प्रतिशत बच्चे आज भी विद्यालयों में नहीं जाते।

1991 में लड़को का सकल नामांकन अनुपात116.6 प्रतिशत था और लडकियों का 88 1 प्रतिशत। यह दर संबंधित आयु व कक्षाओ की दर से लगभग 25 से लेकर 35 प्रतिशत अधिक आंकी गयी है। इस प्रकार वास्तविक नामांकन दर प्रारंभिक शिक्षा में

50 या 60 प्रतिशत के लगभग अनुमानित की गयी है। इसके साथ-साथ बीच में विद्यालय छोड़ने की दरें भी काफी अधिक हैं। लगभग 50 प्रतिशत बच्चे कक्षा 5 तक विद्यालय छोड़ देते हैं। विद्यालय छोड़ने के कारण अधिकाशत शिक्षा में अरुचि, घरेलू व आर्थिक स्थितियों से संबंधित पाए गए हैं।

तालिका 1 से स्पष्ट होता है कि नामांकन की वार्षिक प्रगति दर प्राथमिक शिक्षा के स्तर पर 1951 के बाद सतोषजनक नहीं रही।

तालिका 1

प्राथमिक शिक्षा के स्तर पर नामांकन मे वार्षिक वृद्धि दर (प्रतिशत मे)

अवधि	प्राथमिक	उच्चतर प्राथमिक	प्रारंभिक
1951-61	6.2	7.9	6.5
1961-71	5.2	7.1	5.4
1971-81	2.6	4.5	3.0
1981-91	2.9	4.7	3.4

1981 की जनगणना के अनुसार भारत मे 6 वर्ष की आयु के स्कूल मे पढने वाले बच्चों की संख्या ग्रामीण क्षेत्र मे केवल 21 2 प्रतिशत थी व नगर क्षेत्र में 39.7 प्रतिशत। इस प्रकार 6 वर्ष की आयु के लगभग 50 प्रतिशत से अधिक बच्चे स्कूलों में दाखिला नहीं लेते थे।

हमारे देश में विद्यालय स्तर पर शिक्षा का ढाँचा एक अनोखी स्थिति को दर्शाता है जिससे यह प्रतीत होता है कि साधारण जन समुदाय में शिक्षा के प्रति तीव्र इच्छा होते हुए भी अपने बच्चों को विद्यालयी शिक्षा के उन चरणों तक पहुंचाने में असफल होता है, जो तालिका 2 से स्पष्ट होता है। ग्रामीण क्षेत्र में, बालिकाओं में प्रति 100 छात्रों के नामांकन के पीछे कक्षा 5 में केवल 40 बालिकाएं पाई गई हैं। शहरी क्षेत्र में यह संख्या 64 है।

यह बात ध्यान देने योग्य है कि प्राथमिक कक्षाओं में विशेषकर कक्षा 2 में बालक व बालिकाओ के विद्यालय बीच में छोडने की दरों में अन्तर नगण्य है। यह अन्तर बड़ी कक्षाओं के साथ-साथ बढ़ता जाता है।

बालिकाओं में प्रति 100 छात्रों के नामांकन के पीछे शहरों में 14 छात्राएँ व ग्रामीण क्षेत्र में केवल एक छात्रा बारहवीं कक्षा तक पहुँच पाती है। इस प्रकार शहरों में रहने वाले बालकों के बारहवीं कक्षा तक पढ़ने की आशाएं लगभग ग्रामीण क्षेत्रों के बालकों की अपेक्षा 14 गुणा अधिक हैं। ग्रामीण क्षेत्र मे शिक्षा के सभी स्तरों में विद्यार्थियों के विद्यालय बीच में छोडने की दर शहरी क्षेत्र से कहीं अधिक है जो कि स्पष्ट रूप से ग्रामीण क्षेत्र मे राजकीय नीतियो की उदासीनता को दर्शाती हैं। अनुसूचित जनजातियो व अनुसूचित जातियों में बालिकाओं के विद्यालय बीच में छोड़ने की दर, जैसे तालिका 3 व 4 से प्रेरित होता है, और भी गभीर है।

तालिका 2

कक्षा एक की तुलना मे विभिन्न कक्षाओं में नामांकन प्रतिशत, 1986-87

कक्षा	ग्रामीण		नगर		सभी क्षेत्र	
	कुल	बालिकाएँ	कुल	बालिकाएँ	कुल	बालिकाएँ
1	100	100	100	100	100	100
2	71	70	80	83	73	73
5	45	40	66	64	49	45
8	25	18	58	58	32	25
12	2	1	18	14	6	4

तालिका 3

कक्षा एक की तुलना में विभिन्न कक्षाओ में अनुसूचित जातियों के विद्यार्थियों का नामाकन प्रतिशत

क्षेत्र	कक्षा एक	कक्षा दो	कक्षा पांच	कक्षा आठ	कक्षा दस	कक्षा बारह
ग्रामीण क्षेत्र						
योग	100	71.34	40,37	21.19	10.95	1.81
बालक	100	72.58	44.86	25.94	14.00	2.43
बालिकाएँ	100	69.46	33.49	13.92	6.28	0.88
नगरीय क्षेत्र						
योग	100	80.08	58.90	45.87	32.0,5	11.69
बालक	100	80.19	62.55	52.78	40.35	15.29
बालिकाएँ	100	79.96	54.36	37.26	21.73	7.21
सभी क्षेत्र						
योग	100	73.00	43.87	25.86	14.94	3.68
बालक	100	73.92	47.98	30.67	18.64	4.69
बालिकाएँ	100	71.64	37.84	18.78	9.50	2.20

तालिका 4

कक्षा एक की तुलना में विभिन्न कक्षाओं में अनुसूचित जनजातियों के विद्यार्थियो का नामाकन प्रतिशत

क्षेत्र	कक्षा एक	कक्षा दो	कक्षा पांच	कक्षा आठ	कक्षा दस	कक्षा बारह
ग्रामीण क्षेत्र						
योग	100	58 60	29 14	13 62	6.94	0.93
बालक	100	59.87	33.11	16 79	8.66	1.09
बालिकाएँ	100	56.72	23 23	8 88	4.37	0 69
शहरी क्षेत्र						
योग	100	74.63	58.51	45.15	33.37	9.07
बालक	100	56 72	61.51	50.19	39.94	11.43
बालिकाएँ	100	74.49	54.69	38.72	24.99	6.07
सभी क्षेत्र						
योग	100	59.84	31.40	16.04	8.97	1.56
बालक	100	60.95	35.16	19.20	10.92	1.84
बालिकाएँ	100	58.20	25.85	11.38	6.09	1.14

प्राथमिक स्तर पर अनुत्तीर्णता दर

प्राथमिक स्तर पर विद्यार्थियों को अनुत्तीर्ण न करने की सर्वमान्य नीति के बावजूद कई राज्य इस सबध मे विद्यार्थियो को विभिन्न कक्षाओ के प्रवेश मे विभिन्न नीतियॉ अपनाते हैं। अधिकाश राज्य बच्चो को तीसरी कक्षा तक अनुत्तीर्ण न करने की नीति अपनाते हैं। असम, नागालैण्ड, सिक्किम व मेघालय में पहली कक्षा मे जिन विद्यार्थियों का शैक्षिक स्तर कम होता है उन्हे पहली कक्षा में ही रोक लेते हैं। केन्द्र व आन्ध्र प्रदेश में विद्यार्थियो को उनकी कक्षा में उपस्थिति के आधार पर उत्तीर्ण व अनुत्तीर्ण किया जाता है। बिहार राज्य में सभी विद्यार्थियो को बिना रोक-टोक के उत्तीर्ण किया जाता है। यह ध्यान देने योग्य है कि शैक्षिक दृष्टि से पिछडे राज्यों में प्राथमिक स्तर पर विद्यार्थियो की अनुत्तीर्णता दर काफी शोचनीय है। जिला प्राथमिक शिक्षा कार्यक्रम के अन्तर्गत किए गए आधार स्तरीय सर्वेक्षणों (1994) के अनुसार असम, हरियाणा, उड़ीसा और मध्य प्रदेश के जिलो में 10 प्रतिशत से 33 प्रतिशत तक विद्यार्थी कम से कम एक से अधिक बार अनुत्तीर्ण रहते है (तालिका 5) इन्हीं राज्यों में 13 प्रतिशत से लेकर 60 प्रतिशत विद्यार्थी कम से कम एक बार कक्षा मे अनुत्तीर्ण रहे हैं। अनुत्तीर्ण विद्यार्थियों की दर सबसे कम केरल राज्य मे पाई गई जो कि 1.2 प्रतिशत है। यह दर सबसे अधिक मध्य प्रदेश मे पाई गई जो कि 60.3 प्रतिशत थी। असम, उडीसा, मध्य प्रदेश के कुछ जिलो में यह प्रतिशत 50 60 के बीच पाया गया।

तालिका 5

प्राथमिक कक्षाओं में अनुत्तीर्ण बच्चे, 1994

राज्य	न्यूनतम प्रतिशत	अधिकतम प्रतिशत	एक बार से अधिक फेल होने वाले
हरियाणा	32.5	43.8	15.1
असम	35.3	59 8	9.8
उड़ीसा	28.4	51.3	18.4
केरल	1.2	7.9	.
मध्य प्रदेश	13.3	60.3	33.0
महाराष्ट्र	28.7	31.3	29.0

न्यूनतम शैक्षिक स्तर – एक विडम्बना

न्यूनतम शैक्षिक स्तर के सम्बन्ध में राष्ट्रीय स्तर पर किये गये सर्वेक्षण राजकीय विद्यालयो मे शिक्षा के स्तर की दयनीय स्थिति को दर्शाते हैं, इसमे विभिन्न सर्वेक्षणो के निष्कर्ष अत्यन्त उलझनपूर्ण व चौंकाने वाले हैं। राष्ट्रीय शैक्षिक अनुसंधान और प्रशिक्षण परिषद् व अन्य संस्थानों के निम्नलिखित कुछ तथ्य इस भाग में प्रस्तुत किए गये हैं-

- ☐ कृष्ण कुमार (1994) असफल प्राथमिक शिक्षा दोषी अरुचिकर पाठ्यपुस्तके एवं पाठ्यक्रम।
- ☐ शुक्ल, राजपूत, गर्ग, जैन, अरोड़ा (1994) 'प्राथमिक विद्यालयों में विद्यार्थियो का शैक्षिक स्तर'।
- ☐ श्रीवास्तव और साथी (1991) 'उच्चतर माध्यमिक विद्यालयों मे विद्यार्थियो का शैक्षिक स्तर'।
- ☐ सजीथा व रामकृष्ण (1992) 'प्राथमिक कक्षाओं मे आधारीय स्तर अध्ययन'।
- ☐ गोविन्द व वरगीस (1994) 'प्राथमिक कक्षाओ मे आधारीय स्तर अध्ययन'।
- ☐ जागीरा और साथी (1994) 'प्राथमिक कक्षाओं में आधारीय स्तर अध्ययन।'

कृष्ण कुमार के निष्कर्ष – कृष्ण कुमार द्वारा वर्तमान शैक्षिक

स्तर के सदर्भ मे कुछ विचारणीय तथ्य इस प्रकार हैं-

- साक्षरता अभियान के दौरान केरल के मलापुरम जिले मे एक सर्वेक्षण के दौरान यह पाया गया कि 45 प्रतिशत बच्चे प्राथमिक शिक्षा प्राप्त करने पर भी मलयालम भाषा के 5 साधारण शब्द नहीं लिख पाए।
- एक अन्य सर्वेक्षण में पांचवीं कक्षा में केवल 2 प्रतिशत बच्चे हिन्दी मे व केवल एक प्रतिशत से भी कम बच्चे पर्यावरण विषय में शैक्षिक दक्षता प्राप्त कर सके।
- केरल में स्वास्थ्य सेवाओ की प्रगति व शिक्षा की प्रगति के साथ कोई विशेष संबध नहीं जान पड़ता। विद्यालयी शिक्षा बच्चों के वास्तविक अनुभवो के साथ तालमेल नहीं रखती।
- लद्दाख में बच्चों की किताबो मे जौ की खेती व धूप से ईट आदि पाठ स्पष्ट दर्शाते हैं कि यह किताबे उन लोगो ने लिखी हैं जिन्हे समुद्र तल से 12,000 फुट की ऊचाई वाले क्षेत्र की विशेषताओ का कोई ज्ञान नहीं है।

जिला प्राथमिक शिक्षा कार्यक्रम के अन्तर्गत आठ राज्यों के 43 जिलो मे आधार स्तरीय सर्वेक्षणों के परिणाम (1993) में विदेशी सहायता से लागू कुछ परियोजनाओ के अध्ययन भी कुछ कम चौंकाने वाले नहीं हैं।

उत्तर प्रदेश में 'सभी के लिए शिक्षा' परियोजना के अन्तर्गत सीतापुर, वाराणसी, नैनीताल जिलों में छात्रो का हिन्दी भाषा व अकगणित की उपलब्धि का स्तर संतोषजनक नहीं था।

जिला प्राथमिक शिक्षा कार्यक्रम आधार स्तरीय अध्ययन

इसी प्रकार जिला प्राथमिक शिक्षा कार्यक्रम के अन्तर्गत आठ राज्यों में 43 जिलो के किसी भी जिले में प्रवीणता का लक्ष्य अकगणित व भाषा ज्ञान मे सतोषजनक नहीं था। किसी भी जिले में विद्यार्थी इन विषयो में दक्षता प्राप्त करने के लिए सामान्य निर्धारित औसतन 80 प्रतिशत अंक प्राप्त नहीं कर सके।

कक्षा 2 में विद्यार्थियो का शैक्षिक स्तर

जिला प्राथमिक शिक्षा कार्यक्रम के अन्तर्गत आधार स्तरीय सर्वेक्षणो के नतीजे कक्षा2 के विद्यार्थियो के अक्षर ज्ञान, शब्द ज्ञान व गणित ज्ञान सबंधी आंकडे तालिका 6 (अ) में दिए गए है। इस तालिका के अनुसार48 प्रतिशत विद्यार्थी मध्य प्रदेश मे पन्ना जिले मे और एक तिहाई विद्यार्थी हरियाणा के सिरसा जिले मे, महाराष्ट्र के नादेड जिले में और असम के कार्वी ऑगलोंग जिले में एक भी अक्षर ठीक तरह से नहीं पढ सके। इसी प्रकार अंकों को ठीक से पढना व समझना भी अधिकांश विद्यार्थियों के बूते से बाहर की बात है।

मध्य प्रदेश के 75 1 प्रतिशत विद्यार्थियो ने शब्द पठन की परीक्षा में शून्य अक प्राप्त किए। महाराष्ट्र मे ऐसे विद्यार्थियों की सख्या 54 1 प्रतिशत रही। गणित के अंको की पहचान व साधारण इकाई अंकों का जमा व घटा के सवाल मे इस सर्वेक्षण के नतीजे निराशाजनक रहे। अंक पहचानने में शून्य अंक प्राप्त करने वाले विद्यार्थियो का प्रतिशत मध्य प्रदेश में सबसे अधिक पाया गया जो कि35 9 प्रतिशत था और महाराष्ट्र मे यह संख्या 15.6 थी। इस प्रकार जिलों में जमा व घटा के सवाल में शून्य अंक प्राप्त करने वाले विद्यार्थियों की संख्या मध्य प्रदेश मे64.8 पाई गई और महाराष्ट्र और उड़ीसा मे यह प्रतिशत क्रमश· 33 4 व 35 9 रहा तालिका 6 (ब)। यह ध्यान देने योग्य है कि कक्षा 2 मे दक्षता परीक्षा का आधार कक्षा एक में पढाया गया पाठ्यक्रम था।

कक्षा 4 या 5 में विद्यार्थियों का शैक्षिक स्तर

तालिका 6 (ब) कक्षा 5 व 4 मे जिला प्राथमिक शिक्षा के अन्तर्गत चुने हुए जिलों की स्थिति के संबंध में विद्यार्थियों का शब्द ज्ञान, पठन बोध व गणित ज्ञान के सबंध में दयनीय स्थिति को दर्शाते हैं।

मध्य प्रदेश के एक जिले में कक्षा 5 के विद्यार्थियों का शब्दार्थ ज्ञान, पठन बोध व गणित ज्ञान का औसतन अक क्रमश·

तालिका 6 (अ)

कक्षा 2 में विद्यार्थियों की शिक्षा का स्तर, 1994

विषय	असम	हरियाणा	मध्यप्रदेश	उड़ीसा	महाराष्ट्र
भाषा ज्ञान					
अक्षर बोध					
शून्य अंक प्राप्त बच्चो का प्रतिशत	31.0	37 1	47 6	16.6	33 0
40 प्रतिशत से कम अंक प्राप्त बच्चो का प्रतिशत	15 3	23 0	18.5	16 1	16 0
शब्द बोध					
शून्य अंक प्राप्त बच्चो का प्रतिशत	38.4	17 0	75.1	24 0	54.1
40 प्रतिशत से कम अंक प्राप्त बच्चो का प्रतिशत	37.2	13.8	30 1	15 5	24 2
गणित ज्ञान					
अंक बोध					
शून्य अक प्राप्त बच्चों का प्रतिशत	5 5	8 8	35 9	14 9	15.6
40 प्रतिशत से कम अंक प्राप्त बच्चों का प्रतिशत	10 8	20.9	22.7	18 0	38.7
जमा-घटा का बोध					
शून्य अंक प्राप्त बच्चों का प्रतिशत	8 9	37.1	64 8	35 9	33 4
40 प्रतिशत से कम अंक प्राप्त बच्चों का प्रतिशत	31.0	21.2	26.2	20.2	30.0

तालिका 6 (ब)

कक्षा 4 व 5 मे विद्यार्थियो की शिक्षा का स्तर, 1994

राज्य	न्यूनतम औसत अंक (प्रतिशत में)		
	शब्दार्थ ज्ञान	पठन बोध	गणित ज्ञान
असम	49 5	18 9	18.1
कर्नाटक	28.9	14 5	27.2
केरल	42 9	15 9	34 0
मध्य प्रदेश	25 2	17.3	17 5
महाराष्ट्र	40 5	18.2	27 2
उडीसा	44.8	31.6	33 2
तमिलनाडु	43.2	25.8	27 7

25 2, 17 3 और 17 5 पाया गया जबकि सपूर्ण दक्षता के लिए कम से कम औसतन 80 प्रतिशत अंक प्राप्त होने चाहिए और यहाँ भी कक्षा 5 में परीक्षा का स्तर कक्षा 4 का पाठ्यक्रम था, (दि डी.पी.ई.पी स्ट्रेटजी- 1994)।

शब्दार्थ ज्ञान परीक्षा में 67 4 प्रतिशत विद्यार्थी मध्य प्रदेश के सतना जिले व 55 1 प्रतिशत जिला नादेड़, महाराष्ट्र में 40 प्रतिशत अक प्राप्त नहीं कर सके। पठन बोध में यह स्थिति और भी निराशाजनक पाई गई। सतना जिले मे 51 1 प्रतिशत व दो तिहाई से अधिक अन्य राज्यो के जिले मे विद्यार्थियो ने 40 प्रतिशत से कम अक प्राप्त किए। गणित ज्ञान में स्थिति और भी दयनीय दिखती है। न्यूनतम औसत अंकों का प्रतिशत असम मे 18 1 व मध्य प्रदेश मे 17 5 पाया गया।

पाठ्यपुस्तकों की भाषा

16 प्रतिशत से 64 प्रतिशत अध्यापक यह महसूस करते हैं कि पाठ्यपुस्तको की भाषा व विषय वस्तु अनुसूचित जनजाति के बच्चे सहज रूप से नहीं समझ सकते। आधार स्तरीय सर्वेक्षण के अनुसार उड़ीसा मे 64 प्रतिशत अनुसूचित जनजाति के बच्चो ने पाठ्यपुस्तक की भाषा व विषयवस्तु को समझने में असमर्थता व्यक्त की। यह प्रतिशत महाराष्ट्र में 24 0, कर्नाटक में 20 5, असम मे 18 9 और तमिलनाडु मे 16 0 पाया गया।

तालिका 7

अनुसूचित जनजाति के बच्चो के लिये पाठ्यपुस्तको के विषय में अध्यापको व अनुसूचित जनजाति के बच्चो की राय

राज्य	विद्यार्थियों को पाठ्यपुस्तकें समझने में कठिनाई होती है (प्रतिशत अध्यापकों की राय)	पाठ्यपुस्तके समझने में नहीं आतीं (प्रतिशत विद्यार्थियों की राय)
असम	16.3	18 9
कर्नाटक	29 2	20 5
केरल	49 2	7.9
मध्य प्रदेश	39 5	9 1
महाराष्ट्र	57 1	24.0
उड़ीसा	63.6	64.0
तमिलनाडु	21.0	16.0

अध्यापकों का शैक्षिक स्तर व अध्यापन

आधार स्तरीय सर्वेक्षणों के अनुसार कार्बी आगलॉग, असम में दो तिहाई से अधिक (68 प्रतिशत) प्राथमिक शिक्षा के अध्यापक, और लगभग एक चौथाई अध्यापक, गजपति, जिला उडीसा में और वैतूल जिला मध्य प्रदेश मे कक्षा 10 से कम पढ़े हुए थे।

बिना प्रशिक्षण प्राप्त अध्यापकों की सख्या कार्बी आंगलॉग, असम में 67 प्रतिशत, धार, मध्य प्रदेश मे 59 प्रतिशत तथा फुलवानी, उड़ीसा में 42 प्रतिशत पाई गई।

लगभग दो तिहाई प्राथमिक कक्षा के अध्यापक सभी राज्यो में नवीन्तम शिक्षण सामग्री से अनभिज्ञ थे और वे किसी भी प्रकार की शिक्षण सामग्री का उपयोग नहीं कर रहे थे।

कक्षा चार व पॉच के लगभग एक चौथाई बच्चे अध्यापक की भाषा को समझने में कठिनाई महसूस करते पाए गए। महाराष्ट्र के परभरणी जिले मे यह अनुपात 81.2 प्रतिशत पाया गया।

तालिका 8

प्राथमिक स्तर पर कक्षा में अध्यापक की भाषा समझने की समस्या, 1994

राज्य	अध्ययन हेतु चुने जिलो में प्रतिशत बच्चे जिन्हे अध्यापक की भाषा समझने में कठिनाई थी	
	न्यूनतम प्रतिशत	अधिकतम प्रतिशत
हरियाणा	6.1	31.2
मध्य प्रदेश	1 3	27.0
उडीसा	13.1	25 2
महाराष्ट्र	22 0	81.1

प्रशिक्षणविहीन अध्यापक व निरीक्षणविहीन विद्यालय

आधुनिक प्रगतिशील प्रबन्ध व व्यवस्था के दो प्रमुख व आधारभूत आयाम हैं- प्रशिक्षण व निरीक्षण। प्राथमिक विद्यालयों में इन दोनों पहलुओं का नितान्त अभाव है। 'आधार स्तरीय सर्वेक्षणो' के अनुसार कई जिलो में प्रशिक्षणरहित अध्यापकों की संख्या 50 प्रतिशत से अधिक पाई गई। कर्नाटक के रायपुर जिले में गत 5 वर्षों में 84 प्रतिशत अध्यापकों ने कोई सेवागत प्रशिक्षण प्राप्त नहीं किया।

प्राथमिक विद्यालयों मे समय-समय पर निरीक्षण के अभाव के कारण विद्यालयो की स्थिति में सुधार के कार्यक्रम खटाई मे पड जाते हैं। आधार स्तरीय सर्वेक्षणों के अनुसार स्पष्ट दिखाया गया है कि असम, महाराष्ट्र, उडीसा में ऐसे विद्यालय थे जिनके बारे में ब्लाक शिक्षा अधिकारियों को यह भी नही पता था कि उनके यहॉ कहॉ-कहाँ प्राथमिक विद्यालय स्थित हैं। यात्रा भत्ते का उचित प्रावधान न होने के कारण विद्यालयों का निरीक्षण उपेक्षित विषय रहता है।

प्राथमिक विद्यालयों में विद्यार्थियों का शैक्षिक स्तर : राष्ट्रीय सर्वेक्षण

1994 के अन्त में प्रकाशित राष्ट्रीय शैक्षिक अनुसंधान और प्रशिक्षण परिषद् के द्वारा राष्ट्रीय स्तर पर राजकीय स्कूलों में विद्यार्थियों के शैक्षिक स्तर सम्बन्धित सर्वेक्षण के तथ्य एक अजीबोगरीब स्थिति दर्शाते है। ये तथ्य हमारी वर्तमान शिक्षा पद्धति की सवेदनशीलता व सार्थकता के विषय में एक झलक प्रस्तुत करते हैं। तालिका 9 और 10 मे राष्ट्रीय स्तर पर कुछ आँकडें प्रस्तुत किये गए हैं। उनमे से कुछ निष्कर्ष इस प्रकार हैं-

- विभिन्न राज्यो के विद्यार्थियो का औसत अको में अत्यधिक अन्तर पाया गया। बिहार राज्य में विद्यार्थियो का औसत अंक 143 5 अर्थात् कुल अंकों मे से 69 3 प्रतिशत व कर्नाटक राज्य में 65.8 अंक (31 8%) पाया गया।
- किसी भी राज्य में विद्यार्थियों के औसत अंक न्यूनतम शैक्षिक स्तर में दक्षता की प्राप्ति के लिये निर्धारित अकों के बराबर नहीं पाए गए। राष्ट्रीय स्तर पर औसतन अंक प्राप्ति का प्रतिशत केवल 46 के लगभग रहा जबकि न्यूनतम शैक्षिक स्तर की दक्षता के लिये 80 प्रतिशत की अपेक्षा की जाती है।
- ऐसे राज्यो में जिनमें विद्यार्थियो को अनुत्तीर्ण न करने की नीति अपनाई गई वहाँ के विद्यार्थियों का शैक्षिक स्तर उन राज्यों से अधिक पाया गया जहाँ विद्यार्थियो को उनके शैक्षिक स्तर पर आगामी कक्षा में जाने दिया जाता है।
- शैक्षिक स्तर के सम्बन्ध में पाँचवीं कक्षा के बच्चों

तालिका 9
न्यूनतम शैक्षिक स्तर की परीक्षा में कक्षा 4-5 मे विद्यार्थियों के राज्यवार औसत अंक, 1989

राज्य	कुल औसत अक	(2) अधिकतम अकों (207) का प्रतिशत
बिहार	143.5	69.3
मिज़ोरम	117.6	56.8
पजाब	111.9	54 0
गुजरात	111.0	53.6
आन्ध्र प्रदेश	109.8	53.0
मेघालय	106.9	51.6
उत्तर प्रदेश	104 5	50.4
हरियाणा	103 5	49.7
असम	103.0	49.7
राजस्थान	102.7	49 6
महाराष्ट्र	94.0	45.4
उड़ीसा	93.5	45 1
तमिलनाडु	91 2	44.0
दिल्ली	90 5	43.7
सिक्किम	90.4	43.7
पश्चिम बगाल	88 7	42.8
जम्मू और कश्मीर	87.5	42.2
केरल	85.5	41.3
हिमाचल प्रदेश	82.8	40.0
मध्य प्रदेश	77.6	37.4
नागालैण्ड	72.6	35.2
त्रिपुरा	71.0	34.0
कर्नाटक	65.8	31.7
भारत	96.0	46.0

तालिका 10
न्यूनतम शैक्षिक स्तर की परीक्षा में कक्षा 4-5 में विभिन्न वर्ग के विद्यार्थियों के औसत अंक 1989

वर्ग	औसत अंक	औसत अंक अधिकतम अंक का प्रतिशत
अनुसूचित जाति	93.3	45
अनुसूचित जनजाति	92.5	44
अन्य पिछड़ी जाति	97.7	47
अन्य वर्ग	97.7	47
ग्रामीण क्षेत्र	96.0	46
नगर क्षेत्र	96.1	46
बालक	97.6	47
बालिकाएँ	94.6	45

में औसतन अंकों की प्राप्ति चौथी कक्षा के बच्चों की अपेक्षा कम पाई गई। यह इस बात का द्योतक है कि ज्यों-ज्यों बच्चे बड़ी कक्षाओं में जाते हैं, उनके औसतन शैक्षिक स्तर में कमी आ जाती है।

- ☐ कर्नाटक, गुजरात, जम्मू कश्मीर के विद्यार्थियों के औसतन अंक विद्यालय के स्तर (प्राथमिक, माध्यमिक एवं उच्चतर माध्यमिक) के साथ-साथ बढ़ते पाए गए।
- ☐ ग्रामीण व शहरी क्षेत्र के विद्यार्थियों में प्राथमिक स्तर पर औसतन अकों में कोई विशेष अन्तर नहीं पाया गया।
- ☐ साधारणत. लड़को के औसतन अंक लडकियों से कुछ अधिक पाए गए।
- ☐ अन्य पिछड़ी जाति वर्ग के विद्यार्थियो के प्राथमिक स्तर पर शैक्षिक स्तरीय अंक सबसे अधिक पाए गए। इसमें इन विद्यार्थियों का औसत अक 97.7 था जबकि सामान्य जातियों में यह औसत 97 4, अनुसूचित जनजातियों में92 5 व अनुसूचित जातियो मे 93.3 था।
- ☐ अध्यापकों मे अपने विषय के बारे में पर्याप्त जानकारी का अभाव पाया गया तथा गणित मे अध्यापकों के औसतन अंक75 प्रतिशत से कम पाए गए व पठन बोध में 15 प्रतिशत अध्यापक केवल आधे अक प्राप्त कर सके।
- ☐ राष्ट्रीय शैक्षिक अनुसंधान और प्रशिक्षण परिषद् की तथाकथित आदर्श पुस्तकों पर आधारित शिक्षण का प्रभाव विद्यार्थियो के शैक्षिक स्तर अको पर कुछ विशेष नहीं पाया गया।

कुछ प्रस्ताव

हमारी शिक्षा हमारे सामाजिक व भौगोलिक परिवेश के अनुरूप न होने. के कारण बच्चों पर एक 'घातक' बोझ है। यशपाल समिति की रिपोर्ट 'शिक्षा बिना बोझ के' इस सदंर्भ में कुछ कटु सच्चाइयाँ प्रस्तुत करती है। पढ़ाई पूरी किए बिना विद्यालय छोड़ने वाले बच्चों में अधिकांश बच्चे विषयवस्तु न समझ पाने के कारण ही विद्यालय छोडने को विवश होते हैं। क्षमता की दृष्टि से ये बच्चे उन बच्चो से श्रेष्ठ होते हैं जो आत्मसात किये बिना पर्याप्त विषय वस्तु को केवल याद कर लेते हैं तथा परीक्षा मे अच्छा कर जाते है। यशपाल समिति की रिपोर्ट हमारी वर्तमान शिक्षा प्रणाली व पाठ्यपुस्तकों के संबंध में कुछ ध्यान देने योग्य तथ्य प्रस्तुत करती है जो इस प्रकार हैं। पाठ्यक्रम तथा पाठ्यपुस्तकों की तैयारी में शिक्षकों की सहभागिता सिद्धांत रूप में स्वीकार तो की जाती है परन्तु व्यवहार में इस कार्य में मुट्ठी भर शिक्षक ही प्रतीकात्मक रूप से भाग लेते हैं। प्रणाली में सुधार के प्रति शिक्षकों की जागरूकता तथा सहभागिता को बढ़ावा देने के लिए कोई स्थापित प्रक्रिया या अधिकारिक मंच नहीं है।

यह देखा गया है कि प्राय· पाठ्यपुस्तकें बच्चो के दृष्टिकोण से नहीं लिखी जातीं। न तो सम्प्रेषण का ढंग, न ही वर्णित विषय वस्तु का चयन और न ही प्रयुक्त भाषा बच्चों के पाठ्यक्रम में वर्णित संसार को केंद्र में रखती है। प्राकृतिक तथा सामाजिक विज्ञान और मात भाषा के शिक्षण के लिए प्रयोग की जा रही पाठ्यपुस्तकों में भी ऐसी रूढ़िबद्ध शैली मे शब्द योजना और वाक्य संरचना मिलती है कि बच्चे प्रयुक्त भाषा को अपनी भाषा नहीं मान पाते। पाठ्यपुस्तकों में बच्चों और अन्य लोगो द्वारा आमतौर पर अपने वातावरण में प्रयोग की जाने वाली शब्दावली, मुहावरों तथा अभिव्यक्ति शैली के दर्शन नहीं होते। पाठ्यपुस्तक की कृत्रिम शैली के कारण जीवन से दूरी बढती है। पाठ्यपुस्तकों में पाठ्य सामग्री इस ढंग से प्रस्तुत की जाती है कि पुस्तकीय ज्ञान बच्चे के संसार से बहुत अलग दिखाई पड़ता है। पुस्तकों में केवल समृद्ध शहरी वर्ग की जीवन शैली और जीवन दर्शन के बारे में ही बताया जाता है। इससे ग्रामीण बच्चों का स्कूली अनुभवों के साथ सम्पर्क कमजोर तथा अस्थाई ही होता है। मुख्यत. इन्हीं कारणों से ग्रामीण क्षेत्रों व शहरों के झुग्गीवासियों में बच्चों का बीच में पढ़ाई छोड़ने की दर व शब्द तथा अंक ज्ञान से निम्न शैक्षिक क्षमता का स्तर एक असाध्य समस्या बनी हुई है।

यदि हम प्राथमिक शिक्षा में उचित मात्रा में धन की व्यवस्था कर सकें तो हम इसे आज की दयनीय स्थिति से उबार सकते हैं। अत: प्राथमिक शिक्षा के लिए पर्याप्त धन का प्रावधान व कम से कम प्रति विद्यार्थी प्राथमिक शिक्षा पर कोषीय व्यय

का स्तर प्रति विद्यार्थी उच्च शिक्षा के राजकोषीय व्यय के स्तर तक लाना अत्यंत आवश्यक है। जब तक ऐसा नहीं होगा तब तक आसमान छूती हुई सामाजिक व आर्थिक विषमताएँ, जन साधारण के लिए प्राथमिक शिक्षा का पिछड़ापन हमे ग्रसित करते रहेंगे। पर्याप्त धन के अभाव के कारण प्राथमिक विद्यालयों में उपेक्षित मौलिक आवश्यकताएँ, शिक्षण सामग्री एवं प्रांतों व राज्यो के भौगोलिक, सांस्कृतिक, सामाजिक परिवेश एवं विद्यार्थियों के गहन मनोवैज्ञानिक अध्ययन पर आधारित पाठ्यक्रम को विकसित करना सम्भव नहीं है।

राज्य व क्षेत्रीय स्तर पर पाठ्यक्रम का विकेन्द्रीकरण व पाठो का स्वतत्र इकाइयों के रूप से विकास किया जाना चाहिए जो कि उपरोक्त लिखित शिक्षा क्षेत्र में आधारभूत परिवेशीय अनुसंधान व अन्वेषणों पर निर्धारित हो। इस संबंध मे कुछ सुझाव इस प्रकार हैं-

1. आधुनिकतम व सदर्भगत मानकों पर आधारित विद्यालयी कक्षा में शिक्षण सामग्री, पुस्तकें व लेखन सामग्री का पर्याप्त प्रावधान। .
2. विद्यार्थियों के लिए उनकी भाषा में श्रेष्ठतम छपाई, कागज व विषय सामग्री आदि की पुस्तकों व लेखन सामग्री का निशुल्क पर्याप्त प्रावधान।
3. सुचारू रूप से समय-समय पर कम से कम वर्ष में दो बार अध्यापकों का सेवाकालीन प्रशिक्षण।
4. कक्षा में पर्याप्त शिक्षण सामग्री का प्रबन्ध।
5. समय-समय पर कम से कम माह में दो बार विकास खण्ड शिक्षा अधिकारियो द्वारा अपने क्षेत्र में सभी विद्यालयों का निरीक्षण।
6. शिक्षा में सदर्भगत गुणवत्ता के पहलुओं में किसी भी प्रकार का समझौता नहीं करना।
7. प्राथमिक शिक्षा में प्रति विद्यार्थी राजकोषीय व्यय कम से कम निजी विद्यालयों व नवोदय विद्यालयों के स्तर पर आधारित करना।

देश का भविष्य व उसका विकास प्राथमिक शिक्षा के कार्यक्रमों व उनके पालन पर निर्भर है। आवश्यकता है कि इस दिशा में ठोस कदम द ढता से उठाये जाएँ। इन कार्यक्रमो को योजना आयोग की सदस्या डा. चित्रा नायक के विचारों के अनुरूप ही एक अभियान व जन आन्दोलन के रूप में 'नये संकल्पों' के साथ 'नई आदतों', 'नव धर्म', 'नए आत्मविश्वास' व 'प्रासंगिक अनुसंधान' व 'अन्वेषणों पर' आधारित 'नई व्यवस्था' के द्वारा एकजुट होकर चलाना होगा।

☐☐

प्रवाचक
राष्ट्रीय शैक्षिक अनुसंधान और प्रशिक्षण परिषद्
नई दिल्ली

विद्यार्थियों से सजीव सम्पर्क हो

□ योगराज

भारतीय शिक्षा का आदि इतिहास स्वर्णिम रहा है क्योंकि उस समय की आश्रम पद्धति में छात्र (अन्तःवासी) गुरु के सजीव सम्पर्क में प्रतिपल रहता था और आश्रम का सामूहिक उत्तरदायित्व सभी वहन करने में तत्पर रहते थे। गुरु सभी छात्रों से पितातुल्य व्यवहार करते थे। उनकी समस्याओं को ध्यान से समझकर निवारण के उपाय सुझाते थे। यही कारण है कि छात्र बाह्य वातावरण के आकर्षण में न जाकर आश्रम की गतिविधियों में तत्परता से संलग्न रहते थे। 'गुरु' भी शिक्षण/अध्यापन को मात्र व्यवसाय न समझकर अपना धर्म समझते थे। तभी उनका आदर-मान था, शिष्यों में उनके प्रति आपादमस्तक श्रद्धा थी और तभी 'गुरु' को 'पर-ब्रह्म' मान उसे वन्दना और नमन का अधिकारी समझा गया है। यह है धर्म के निर्वहण की श्रेष्ठता-न पद की लिप्सा, न धन का मोह और न ही मान-सम्मान की भूख। सर्व कर्म की परिशुद्धता ने सब कुछ ला दिया था स्वयमेव।

आज स्थितियां बदल गई हैं। विश्व सिमट कर रह गया है। सबकी समस्याएं सॉझी हैं। 'स्विच टेक्नोलॉजी' का साम्राज्य है। छात्रों की अनुशासनहीनता एवं उद्दंडता की अक्सर माता-पिता एवं शिक्षकों की शिकायत होती है। आखिर कारण क्या हैं? छात्रों की इस विनाशक 'तोडक' प्रवृत्ति का गहराई से मनन करने पर ज्ञात होता है कि ये कारण मुख्यतः अभिभावकों एवं शिक्षकों की बच्चों/छात्रों के साथ सम्पर्क की प्रक्रिया के लड़खडाने के साथ जुड़े हैं। सब अपनी-अपनी कुंठाएं लिए रहते हैं अतः वातावरण सुखद नहीं हो पाता। आवश्यकता है तो मात्र सम्पर्क प्रक्रिया को स्वस्थ बनाने हेतु प्रथम पग उठाने की। अभिभावकों/शिक्षकों और छात्रों के मध्य अहंवाद का कोई स्थान नहीं होना चाहिए। इस भूमि पर तो उन्हीं तत्वों का समावेश होना चाहिए "नित जाते होत उद्धारि।" माता-पिता और शिक्षकों के लिए आज की स्थितियों मे आत्मावलोकन आवश्यक हो जाता है। केवल 'पात्र' पर ही विचार कर हम छूट नहीं सकते, कुछ प्रश्न चिन्ह हमारी अपनी 'सामर्थ्य' पर भी मुहबाए अटके हैं। अन्धेरा है तो केवल उसका राग अलापने से कुछ नहीं होगा, प्रत्युत् प्रकाश की धीमी लौ स्वयं अपने हाथों से जला कर ही हम अपने अस्तित्व की सार्थकता जाहिर कर सकते हैं।

शिक्षा की सार्थकता इसी में है कि वह छात्र का बाह्यालंकरण ही न करे, बल्कि उसके अन्तस की लौ को जलाने में भी सहायक हो। मात्र पाठ्यक्रम के निर्धारित मापदंड तक नहीं, अपितु छात्र के वैचारिक धरातल की भी परिपुष्टि करे। यह शिक्षा अभिभावको और अध्यापकों के छात्रों के प्रति सम्मिलित उत्तरदायित्व वहन से ही सम्भव है। छात्र के सम्पर्क में अभिभावक/अध्यापक केवल वचन से ही नहीं, प्रत्युत् कर्म से भी अपना दायित्व निभाएं। सम्पर्क के सजीव क्षणों में ध्यान यह रखना होगा कि कहीं छात्र हमारी किसी बात को बोझ समझकर अपनी मानसिकता पर न लादें। उसके विचार को भी हम वजन दें। उसके तर्क को उद्दंडता की ही कसौटी पर न कसें, विद्रोह ही न मानें। उसके प्रति हमारा आचरण भी स्वस्थ और प्रेरक हो। हमारी चेष्टाएं भी स्पष्ट हों। शान्त तरीके से उसकी बात सुनकर हम उसकी उचित बात को उचित ठहराएं और सम्पर्क की कड़ी को टूटने न दें। अक्सर देखा जाता है कि बच्चे पिता से या कभी माँ से कट कर रहते हैं। यहां तक कि ऐसे में वे माता/पिता के सम्मुख आने से कतराने लगते हैं और बहाने बनाने लग जाते हैं। ऐसी स्थिति मे यदि सम्पर्क की कड़ी टूटी रहती है तो समस्या विकराल हो सकती है। अतः पहले ही कोई रास्ता ढूंढ निकालना आवश्यक हो जाता है।

कई बार देखने मे आता है कि माता-पिता शिकायत करते है कि उनका बच्चा अमुक के साथ घूमता है और अमुक की सगति का ही परिणाम है कि वह बिगड गया है। अविश्वास बढता जाता है और स्थिति विस्फोटक हो जाती है। यह उचित नहीं है। बच्चा हमारा है। उसके बनने-बिगडने का दायित्व हमारा है। उसकी इस प्रकार की सगति का कारण कही घर की प्रतिकूल परिस्थितियां तो नहीं हैं कि वह उनसे बचना चाहता हो और विद्रोहस्वरूप ऐसा कर रहा हो या कि माता-पिता उसे बिल्कुल ही समय न दे पाते हों। यह भी हो सकता है कि माता-पिता उसकी अपने अन्य बच्चो से तुलना करते हुए उसे नीचा दिखाते रहते हो, अविश्वास जताते हुए उसके अन्य बच्चों जैसा न कर पाने की बात कहते रहते हो या उसकी बात को ध्यान से न सुनते हो। सदैव उसके प्रत्येक आचरण पर उसे लज्जित करते रहते हो, तथा उसकी जायज बात भी न मानते हो।

हमे धरोहर स्वरूप विचार तो देने चाहिए परन्तु बच्चे को अपनी कल्पना के अनुरूप बनने पर बाध्य नहीं करना चाहिए। उसकी स्वतत्र मानसिकता के विकास में हमें सहायक होना चाहिए। क्योकि सहज बुद्धि के, न कि उत्प्रेरित बुद्धि के, निर्णय ही महान हुआ करते हैं। यह जानकर कि उसका व्यक्तित्व अपना है, उधार का नहीं, आरोपित भी नहीं हो सकता वह। उस 'स्वय' के निखार में हमे प्रयत्नरत रहना चाहिए, सम्पर्क प्रक्रिया को बिना अवरुद्ध किए। □□

सहायक प्रबन्धक
भारतीय स्टेट बैंक
आंचलिक कार्यालय
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प्राइमरी शिक्षक

वर्ष 20 अंक 3-4 जुलाई-अक्तूबर, 1995

राष्ट्रीय शैक्षिक अनुसधान और प्रशिक्षण परिषद्, नई दिल्ली द्वारा प्रकाशित **प्राइमरी शिक्षक** एक त्रैमासिक पत्रिका है ।

इस पत्रिका का उद्देश्य केन्द्रीय सरकार की शिक्षा नीतियों से सबधित अधिकाधिक जानकारी शिक्षकों और सम्बद्ध प्रशासको तक पहुचाना है । इसका उद्देश्य कक्षा मे इस्तेमाल की जा सकने वाली सार्थक और सम्बद्ध सामग्री प्रदान करना भी है । भारत के विभिन्न केन्द्रो मे चल रहे पाठ्यक्रमों और कार्यक्रमो आदि के बारे में समय-समय पर इसमे सूचनाएं प्रकाशित होती रहती है। शिक्षा-जगत मे होने वाली हलचलों पर विचार-विमर्श के लिए यह एक मच भी प्रदान करती है ।

इस पत्रिका के प्रमुख स्तम्भ हैं—

(1) प्राथमिक शिक्षा से संबधित शैक्षिक नीतियां।

(2) प्रश्न और उत्तर।

(3) राज्यो के समाचार।

(4) कक्षा मे इस्तेमाल की जा सकने वाली सचित्र सामग्री ।

स्कूलों के शिक्षकों की रचनाएं प्रकाशनार्थ आमन्त्रित हैं । हर प्रकाशित रचना पर पारिश्रमिक की व्यवस्था है । लेख हिन्दी या अंग्रेजी में कागज़ के एक ओर लिखा होना चाहिए । सुविधा के लिए कृपया रचना की टाइप की गई या साफ-साफ, सुन्दर अक्षरो मे लिखी दो प्रतिया भेजे।

प्रधान सपादक . पूरन चन्द

अकादमिक संपादक : सविता वर्मा

मूल्य एक प्रति . 4 रुपये ; वार्षिक : 16 रुपये

वर्ष 20 | अंक 3-4 | जुलाई-अक्तूबर, 1995

इस अंक में

शिक्षकों ने लिखा है

विचार

प्राथमिक शिक्षा में किए गए नए प्रयास

❑ एम. पी. रस्तोगी

सभी बच्चों को प्राथमिक शिक्षा प्रदान करने के लिए स्वतंत्रता प्राप्ति के बाद, शैक्षिक सुविधाओ का अत्यधिक प्रसार हुआ है। देश में प्राथमिक विद्यालयो की संख्या 1950-51 में लगभग 2 2 लाख थी, जो बढ़कर 6.32 लाख के आसपास हो गई है। इसके अतिरिक्त लगभग 3 लाख अनौपचारिक शिक्षा केन्द्र भी बच्चों को प्राथमिक स्तर की शिक्षा प्रदान कर रहे हैं। वर्ष 1986 के अखिल भारतीय शैक्षिक सर्वेक्षण के अनुसार लगभग 95 प्रतिशत जनसंख्या के लिए अब प्रत्येक 1 किलोमीटर की दूरी पर प्राथमिक विद्यालय उपलब्ध है। इस व्यापक प्रसार व शैक्षिक सुविधाओ के होने के बावजूद अब तक हम सभी बच्चों को प्राथमिक शिक्षा नहीं दे पाए है। यह लक्ष्य अभी अधूरा रह गया है। राष्ट्रीय शिक्षा नीति - 1986 मे प्राथमिक शिक्षा के संदर्भ में दो बातो पर विशेष बल दिया गया है।

- ❑ 14 वर्ष की अवस्था तक के सभी बच्चों का विद्यालय में प्रवेश और उनका विद्यालय में टिके रहना।
- ❑ शिक्षा की गुणवत्ता मे काफी सुधार।

इन दोनो बातो को ध्यान में रखते हुए प्राथमिक शिक्षा के क्षेत्र में किए गए नए प्रयास उल्लेखनीय है।

आपरेशन ब्लैकबोर्ड

आपरेशन ब्लैकबोर्ड की योजना 1987 मे लागू की गई। इसका मुख्य उद्देश्य देश के प्राथमिक विद्यालयो में न्यूनतम आवश्यक सुविधाओ को उपलब्ध कराना था। ये सुविधाएं निम्न थीं।

- ❑ दो बड़े कमरे
- ❑ कम से कम दो अध्यापक जिनमें से एक अध्यापिका हो, धीरे धीरे यह प्रयास हो कि विद्यालय की हर कक्षा के लिए अलग अध्यापक हो।
- ❑ खिलौने
- ❑ श्यामपट्ट
- ❑ नक्शे एव रेखाचित्र
- ❑ पुस्तकालय पुस्तके तथा शिक्षण सहायक सामग्री

इस योजना मे कार्यान्वियन कार्यक्रम 1992 के अनुसार कुछ सशोधन किया गया जिससे योजना को सही ढंग से लागू किया जा सके।

1992-93 तक इस योजना में कहॅा तक सफलता मिली यह तालिका-1 द्वारा स्पष्ट है।

आपरेशन ब्लैकबोर्ड के संदर्भ मे दी गई शिक्षण सामग्री व अन्य सुविधाओ के सही प्रयोग के लिए प्राथमिक विद्यालयों के अध्यापकों को विशेष प्रशिक्षण (SPOT) भी दिया गया है। ऐसा अनुमान है कि आठवीं पंचवर्षीय योजना के अंत तक लगभग 4.5 लाख अध्यापकों को प्रशिक्षित कर दिया जाएगा।

आपरेशन ब्लैकबोर्ड योजना से प्राथमिक शिक्षा की स्थिति में बहुत सुधार हुआ है।

न्यूनतम अधिगम स्तर कार्यक्रम

शिक्षा में गुणवत्ता एवं समता की दिशा में, प्राथमिक स्तर पर न्यूनतम अधिगम स्तर कार्यक्रम एक नया कदम है। हमारे देश में अधिकांशतया प्राथमिक शिक्षा का स्तर सन्तोषजनक नहीं है। प्राथमिक विद्यालयों में 5 वर्ष की शिक्षा पूरी करने पर भी शिक्षार्थियों से ज्ञान, समझ, व्यक्तित्व

तालिका 1

आपरेशन ब्लैकबोर्ड उपलब्धि

		1987-88	88-89	89-90	90-91	91-92	92-93
1	व्यय की गई धन राशि (करोड में)	110.61	135.73	126.93	150.09	150.63	99 14
2.	योजना लागू वाले विकास खंडो की संख्या	1703	1795	578	843	960	500
3.	योजना लागू वाले विद्यालयो की संख्या (लाखों में)	1.13	1.40	0.52	0.39	0 68	0.60
4.	प्राथमिक विद्यालयों का प्रतिशत जहॉ योजना लागू हुई	21%	26.40%	9.90%	7.35%	12.14%	11%
5.	प्राथमिक अध्यापको की अनुमोदित संख्या	36891	36327	5274	14379	26840	16000

स्रोत : मानव संसाधन विकास मंत्रालय, भारत सरकार की वार्षिक रिपोर्ट 1992-93 भाग 1 पृष्ठ 30

संबधी गुणों व जीवन मूल्यों का विकास उस स्तर तक नहीं पहुंच पाता जितनी उनसे अपेक्षा की जाती है। यह शिक्षा मे गुणवत्ता की कमी के कारण है। इसके अलावा विभिन्न क्षेत्रों में और एक ही क्षेत्र के विभिन्न स्कूलों में भी कहीं शिक्षा का स्तर ऊंचा होता है और कहीं नीचा। ऐसा शिक्षा मे समता की कमी के कारण है। शिक्षा में गुणवत्ता की समता की समस्याओं को देखते हुए अधिगम के न्यूनतम स्तर निर्धारित किए गए हैं और यह सुनिश्चित किया जाता है कि सभी शिक्षार्थी उन्हें पूर्णत· प्राप्त कर सकें। इस योजना के कई लाभ हैं, जैसे शिक्षण अधिगम लक्ष्यों का निश्चित और स्पप्ट होना, उपयुक्त शिक्षण अधिगम क्रियाओं का चयन, शिक्षार्थियों की सम्प्राप्ति का उचित मूल्यांकन और पाठ्यक्रम में सुधार।

इस योजना के अन्तर्गत भारत सरकार के मानव संसाधन विकास मंत्रालय (शिक्षा विभाग) ने प्राथमिक स्तर पर न्यूनतम अधिगम स्तर नामक एक दस्तावेज़ तैयार किया है, जिसमे कक्षा 1 से 5 तक के सभी मुख्य विपयो के न्यूनतम अधिगम स्तर दिए गए हैं। इसके आधार पर सभी राज्यों व केन्द्र शासित प्रदेशों ने अपनी-अपनी आवश्यकताओं को ध्यान में रखते हुए न्यूनतम अधिगम स्तर तैयार किए हैं और अब इनके आधार पर शिक्षण सामग्री तैयार की जा रही है। साथ ही शिक्षकों को प्रशिक्षित भी किया जा रहा है।

जिन क्षेत्रों में यह योजना कार्यान्वित हुई है वहां शिक्षा में सुधार व शिक्षार्थियों की उपलब्धि में वृद्धि हुई है।

डी.पी.ई.पी. योजना

प्राथमिक शिक्षा में सुधार की दृष्टि से डी.पी.ई.पी. योजना एक अच्छा प्रयास है। इसमें शिक्षा के विकेन्द्रीकरण पर बल दिया गया है और शिक्षा की दृष्टि से ज़िले को पूरी एक इकाई माना गया है। यह योजना 1993-94 से लागू की गई है और अभी शुरू में इसे 8 राज्यों के 43 ज़िलों में लागू किया गया है। यह योजना विश्व बैंक द्वारा सहायता प्राप्त है। इसमें ज़िले के स्तर पर पूरी प्राथमिक शिक्षा की योजना के साथ-साथ, सामुदायिक भागिता, बालिकाओं की शिक्षा,

अनुसूचित जातियों और अनुसूचित जनजातियो की शिक्षा पर अधिक बल है। उत्तम अधिगम-शिक्षण सामग्री के निर्माण और शिक्षकों के प्रभावमय-शिक्षण की व्यवस्था पर भी विशेष ध्यान दिया जा रहा है।

इस योजना से ऐसा लगता है कि हम वर्ष 2000 तक 6-14 आयुवर्ग के सभी बच्चो को अच्छी प्राथमिक शिक्षा दे पाएंगे।

इन उपरोक्त योजनाओं के अतिरिक्त हमारे देश में राष्ट्रीय स्तर पर एन.सी.ई.आर.टी. द्वारा राज्य स्तर पर एस.सी.ई.आर. टीज तथा राष्ट्रीय स्वैच्छिक संस्थाओ द्वारा भी कुछ प्रयोग व प्रयास किए जा रहे है, उनमे से कुछ इस प्रकार हैं :

प्राथमिक शिक्षा पाठ्यचर्या नवीकरण परियोजना

यह योजना यूनीसेफ द्वारा सहायता प्राप्त परियोजना थी। इस योजना में स्थानीय व शिक्षार्थियों की आवश्यकताओं को ध्यान में रखते हुए प्राथमिक स्तर पर पाठ्यक्रम बनाया गया। यह लगभग देश के सभी राज्यों में लागू किया गया। 1994 में इस परियोजना का मूल्यांकन न्यूनतम अधिगम सातत्यक में विनिर्देशित दक्षताओं के आधार पर, सभी प्राथमिक कक्षाओं के लिए तैयार किए गए संप्राप्ति परीक्षणों की सहायता से किया गया। इस मूल्यांकन अध्ययन से काफी आनुभविक प्रमाण प्राप्त हुए, जिनका लाभ उठाते हुए और राष्ट्रीय शिक्षा नीति 1986 का अनुसरण करते हुए राष्ट्रीय शैक्षिक अनुसंधान और प्रशिक्षण परिषद् ने प्राथमिक स्तर पर न्यूनतम अधिगम स्तर नामक एक दस्तावेज़ भी तैयार किया।

प्राथमिक शिक्षा व्यापक उपागम (केप)

यह परियोजना प्रारंभिक शिक्षा के सार्वजनीकरण के लक्ष्य की प्राप्ति के लिए शुरू की गईं। यह यूनीसेफ सहायता प्राप्त परियोजना थी। इस परियोजना का मुख्य उद्देश्य 6-14 आयुवर्ग के हर बच्चें को, विशेषतः सुविधावंचित वर्गो के लडके, लड़कियों और अनुसूचित जातियों, जनजातियों, पिछडे वर्ग के छात्रों को सभव हो सके तो पूर्णकालिक तथा यदि आवश्यकता हो तो अंशकालिक शिक्षा प्रदान करना था। इसमें पाठ्यचर्या का विकास करते समय विद्यार्थियों व समाज की आवश्यकताओं के अनुरूप लचीलापन, स्थानीय विशिष्टताएं, सामाजिक दृष्टि से उपयोगी उत्पादक कार्य और समाज सेवा आदि को ध्यान दिया गया। बच्चों के लिए स्वतः अधिगम सामग्री का निर्माण किया गया जो उपरोक्त सिद्धान्त पर आधारित थी। यह सामग्री माड्यूल्स के रूप मे निर्मित की गईं। केन्द्र सहायक व शिक्षको द्वारा इस सामग्री का प्रयोग सही रूप में हो सके, इस उद्देश्य से 'शिक्षण पैकेज' व मूल्यांकन के लिए भी 'मूल्यांकन पैकेज' विकसित किए गए। यह योजना शिक्षा की दृष्टि से अपने में पूर्ण योजना रही। इससे बच्चों की शिक्षा विशेषतः बालिकाओं की शिक्षा मे अधिक सफलता के प्रमाण मिले।

क्षेत्र सघन शिक्षा परियोजना

यह परियोजना भी यूनीसेफ सहायता प्राप्त परियोजना है। इसे राष्ट्रीय शैक्षिक अनुसंधान और प्रशिक्षण परिषद् का विद्यालय-पूर्व एवं प्रारंभिक शिक्षा विभाग कार्यान्वित कर रहा है। यह योजना 1987-88 में, महाराष्ट्र मिज़ोरम, उड़ीसा तमिलनाडु, उत्तर प्रदेश तथा दादर और नगर हवेली के 6 ब्लाक व 542 गांवों में शुरू की गई, जो अब इन्हीं राज्यों में 16 ब्लाकों के 1756 ग्रामों में चल रही है। इसका मुख्य उद्देश्य एक विस्तृत समन्वित शैक्षिक कार्यविधि को अपनाते हुए शिक्षा का विकास करना है, जिसमें समस्त जनसंख्या की शैक्षिक आवश्यकताओं को ध्यान में रखते हुए उन्हें पूर्व प्राथमिक, प्राथमिक, अनौपचारिक व प्रौढ़ शिक्षा, सभी क्षेत्रो में शैक्षिक सुविधाएं प्रदान करना समाहित है। इसमें शिक्षा विभाग के साथ अन्य विभागों व सामुदायिक विकास विभाग आदि की सहायता से शिक्षा के विकास का कार्य किया जाता है। इसमें एक क्षेत्र पर योजनाबद्ध कार्य प्रणाली द्वारा प्राथमिक शिक्षा के विकास व उसकी स्थिति में सुधार के लिए कार्य किया जा रहा है।

बिहार शिक्षा परियोजना (बैप)

यह परियोजना बिहार राज्य मे 1991 में 'सभी के लिए शिक्षा' के लक्ष्य को ध्यान में रखते हुए लागू की गई। इसके मुख्य उद्देश्य हैं -

- प्राथमिक शिक्षा के सार्वजनीकरण के लक्ष्य की प्राप्ति के लिए सभी को शिक्षा की उपलब्धता, भागीदारी और न्यूनतम स्तर पर आधारित सम्प्राप्तिता।
- 15-35 आयु वर्ग में आने वाले की साक्षरता पर बल। यह साक्षरता स्तर विशेषतः 89 प्रतिशत तक हो।
- शिक्षा में विषमनाओं को दूर करने पर बल तथा सभी को विशेषतः महिलाओ, अनुसूचित जातियों, जनजातियों तथा पिछडे वर्गो को शिक्षा के लिए अवसर मुहैया कराना।
- शिक्षा को वहां के रहने वालो के जीवन से सबंधित करते हुए, जीवन की समस्याओं को हल करने की क्षमता पर बल देना।
- विज्ञान और पर्यावरण सबधी शैक्षिक क्रियाओं पर अधिक ध्यान देना तथा सामाजिक न्याय के प्रति कटिबद्धता।

यह परियोजना प्रारंभ में बिहार के 3 जिलों में लागू की गई, इसके बाद 4 ज़िलां मे और 1995 के अन्त तक यह 20 जिलों में लागू कर दी जाएगी। इस योजना के क्रियान्वयन के लिए राज्य, ज़िला व गांव स्तर पर शिक्षा कमेटी बना दी गई हैं। इस परियोजना में ग्राम शिक्षा कमेटी-की विशेष भूमिका है।

शिक्षाकर्मी परियोजना (एस.के.पी.)

यह परियोजना शुरू में राजस्थान राज्य के ज़िले जयपुर में 1987 मे स्वीडिश सरकार (सीडा) की सहायता से लागू की गई। इसका मुख्य उद्देश्य राजस्थान राज्य के दूरदराज के पिछडे हुए गांवों में प्राथमिक शिक्षा का विकास करना था। इसमें सबसे अधिक जोर दो बातों पर दिया गया —

- दूर दराज के गांव जहा जाना कठिन है, वहां अध्यापकों की अनुपस्थिति पर काबू पाना।
- बच्चों का विशेषतया बालिकाओं के विद्यालयों मे बहुत कम नामाकन व उनके बीच मे ही स्कूल छोड देने पर भी काबू पाना।

इस समय यह योजना राजस्थान के 23 ज़िलों व 52 विकास खडों तथा 740 विद्यालयो मे चल रही है। इस योजना से 95000 बच्चे लाभ उठा रहे है, जिनमें 20,000 बच्चे प्रहर पाठशालाओ में, जो बच्चो की सुविधानुसार खुलते है, शिक्षा ले रहे है। इस योजना मे प्राथमिक शिक्षक की जगह दो स्थानीय शैक्षिक कार्यकर्ता जिन्हें 'शिक्षाकर्मी' कहते हैं, कार्य करते हैं। इन शिक्षाकर्मियों को प्रभावी शिक्षा देने के लिए प्रशिक्षण भी दिया जाता है। इससे प्राथमिक शिक्षा उन दूरदराज के स्थानो में भी पहुंच पाई है जहा अभी तक शिक्षा मुहैया नही थी।

लोक जुम्बिश परियोजना

यह योजना राजस्थान राज्य मे 2000 तक 'सभी को शिक्षा' के उद्देश्य से लागू की गई है। यह परियोजना व्यक्तियों के विश्वास, आस्था व सहयोग पर आधारित है। इसके मुख्य उद्देश्य हैं —

- सभी शिक्षार्थियो के लिए शिक्षा की उपलब्धता, उनकी भागीकारिता और न्यूनतम अधिगम स्तर पर आधारित सम्प्राप्तिता, प्रदान करना।
- जो साक्षर हैं उनके शैक्षिक स्तर को बढाने हेतु सुविधाएं प्रदान करना।
- महिलाओं की शिक्षा व स्तर को ऊँचा उठाने पर बल देना।
- अनुसूचित जातियों व जनजातियों तथा पिछडे वर्ग के लोगों की आवश्यकताओं को ध्यान मे रखते हुए शिक्षा के समान अवसर मुहैया करना।

लोक जुम्बिश एक स्वायत्त संस्था है। इसे अपने कार्य के लिए स्वीडन सरकार (सीडा), भारत सरकार व राजस्थान सरकार द्वारा सहायता मिलती है। इसके द्वारा किए गए कार्य शिक्षा की दृष्टि से सराहनीय रहे है।

आंध्र प्रदेश प्राथमिक शिक्षा परियोजना (एपपैप)

यह योजना ब्रिटिश सरकार की सहायता से आंध्र

प्रदेश के राज्यों में चलाई जा रही है। इस योजना का प्रथम चरण 1984-87 मे राज्य के 11 ज़िलों के 328 विद्यालयों में प्रारंभ हुआ था। यह 1995-96 तक चलेगी। इस योजना के अन्तर्गत आंध्र प्रदेश के सभी प्राथमिक विद्यालयों को सम्मिलित किया गया है। इसका मुख्य उद्देश्य है -

- ❑ राज्य के सभी प्राथमिक विद्यालयों में अच्छे व नए कक्षा भवनो का निर्माण कराना।
- ❑ शिक्षकों व प्रशासनिक अधिकारियों को प्रशिक्षण देकर उनकी कार्यक्षमता में बढ़ोतरी कराना।

इस योजना के कार्यान्वयन से प्राथमिक शिक्षा में नामांकन, बच्चो द्वारा बीच में ही स्कूल छोड़ने आदि में सुधार हुआ है।

उत्तर प्रदेश बेसिक शिक्षा परियोजना

यह भारत में विश्व बैक द्वारा सहायता प्राप्त सबसे पहली परियोजना है। इस योजना में 10 ज़िले लिए गए हैं। यह योजना वर्ष 2000 तक चलाने का विचार है। इस योजना को चलाने के लिए राज्य स्तर पर एक स्वायत्त संस्था स्थापित की गई है, जिसके अंतर्गत ज़िला व गांव स्तर पर ज़िला स्तर समितियां व गाव स्तर समितिया कार्य कर रही हैं। परियोजना में गांव स्तर समिति की भूमिका विशेष है। इस योजना द्वारा अब तक विद्यालय भवनो का निर्माण हुआ है। इसमें शैक्षिक कार्यकर्ताओं व सामुदायिक कार्यकर्ताओं का प्रशिक्षण भी किया गया है। अब तक इस योजना के अतर्गत जो भी कार्य किया गया है वह बहुत ही सुसंगठित ढग से हुआ है। आशा की जा रही है कि इससे 2000 तक प्राथमिक शिक्षा के लक्ष्य की प्राप्ति में बेहद सहायता होगी।

शिक्षा के क्षेत्र में किए जा रहे इन कुछ प्रयासों से ऐसा लगता है कि हम इस बार अवश्य ही वर्ष 2000 तक प्राथमिक शिक्षा विशेषतः सभी के लिए शिक्षा का लक्ष्य प्राप्त कर सकेगे। किन्तु इसके लिए हमें जनसंख्या वृद्धि, गरीबी, बाल श्रम पर काबू पाना होगा। ❑❑

प्रवाचक
विद्यालय-पूर्व एवं प्रारंभिक शिक्षा विभाग
राष्ट्रीय शैक्षिक अनुसंधान और प्रशिक्षण परिषद्
नई दिल्ली

वैज्ञानिक युग में सामाजिक अध्ययन की प्रासंगिकता

❑ बी. आर. परमार

सामाजिक अध्ययन विषय को माध्यमिक स्तर के पाठ्यक्रम में क्यो सम्मिलित करने दिया जाना चाहिए ? वर्तमान उन्नत वैज्ञानिक युग में सामाजिक अध्ययन विषय की क्या उपयोगिता है। इस प्रकार के प्रश्न चिह्न सामाजिक अध्ययन अध्यापन के संदर्भ में समय-समय लगते रहे हैं।

सामाजिक अध्ययन विषय की अनुपयोगिता के विषय में तर्क यह दिया जाता रहा है कि छात्रो को इस विषय से कोई तात्कालिक लाभ नही होता है। इसको पढ़ने से छात्रों को रोज़ी-रोटी कमाने मे कोई सहायता नही मिलती। यह भी कहा जाता है कि गणित, भौतिक शास्त्र, रसायन शास्त्र, कम्प्यूटर विज्ञान आदि विषय पढ़ने से न केवल रोजी रोटी मिलती है अपितु छात्रों में वैज्ञानिक दृष्टिकोण भी विकसित होता है।

सामाजिक अध्ययन विषय मे नागरिक शास्त्र, इतिहास, भूगोल तथा अर्थशास्त्र आदि विषयों का समावेश होता है। इस कारण इसकी विषय-वस्तु अति विस्तृत हो जाती है जिससे छात्रों को यह विषय पढ़ने व समझने में कठिनाई का अनुभव होता हे। इस विषय की पाठ्य-वस्तु के गुण धर्म अलग-अलग होते हैं फलतः छात्रों का ज्ञान अपूर्ण ही रहता है। अतः ऐसे विषय को कक्षा दस तक अनिवार्य किया जाना छात्रों के समय व क्षमता को व्यर्थ में बर्बाद करना माना जाता है।

वास्तव मे विषय अध्ययन की सत्यता का सूक्ष्म विश्लेषण किया जाए तो कटुसत्य हमारे सामने आता है कि सामाजिक विषय के पठन-पाठन के प्रति सरकार, समाज, विद्यालय तथा स्वयं शिक्षक की ओर से घोर उदासीनता रही है। इस विषय की अकिंचनता का इससे बड़ा और क्या उदाहरण हो सकता है कि इसे किसी भी विषय के अध्यापक को पढ़ाने के लिए दे दिया जाता है। कम से कम प्राथमिक स्तर तक तो शत-प्रतिशत ऐसा ही होता है। समय सारणी में सामाजिक अध्ययन के लिए सबसे कम कालखण्ड की व्यवस्था की जाती है। पाठ्यसामग्री मे समरसता तथा समानता का अभाव है। मूल्यांकन के लिए कोई मानक विधि नही है। फलत· पालक, बालक तथा शिक्षक इसे कामचलाऊ विषय मानते हैं। लोगों के मन में धारणा बन गई है कि सामाजिक अध्ययन से सामान्य ज्ञान के अलावा और कुछ प्राप्त होने वाला नही है। अनुभव बताता है कि इस विषय के प्रति न तो शिक्षक जागरूक है और न ही छात्र सचेत। समाज व सरकार द्वारा गणित व विज्ञान शिक्षक की तुलना में सामाजिक अध्ययन शिक्षक को बहुत कम अहमियत मिलती है, फलतः यह विषय अपनी अस्मिता खोता जा रहा है।

उपरोक्त कथ्य एवं तथ्य यह सोचने के लिए बाध्य करते हैं कि आखिरकार, इतनी अधिक उपेक्षा के बावजूद यह विषय अपनी स्थिति विद्यालयी शिक्षा व्यवस्था में किन आधारो पर बनाए हुए हैं? इसकी प्रांसगिकता क्या है ? इसको परखने के लिए इस विषय के दूसरे पहलू का अध्ययन प्रासंगिक है। अधिकांश शिक्षक, शिक्षाशास्त्री, तथा समाज विज्ञानी का यह मानना है कि प्राथमिक व माध्यमिक स्तर पर सामाजिक अध्ययन व अध्यापन को मात्र रोजी-रोटी कमाने की तुला पर नहीं तोला जाना चाहिए। छात्रों के लिए इसकी तात्कालिक उपयोगिता न होने पर भी यह स्कूली पाठ्यक्रम का अनिवार्य अग होना चाहिए। सामाजिक-अध्ययन व अध्यापन द्वारा छात्रों में जहां एक ओर कल्पना शक्ति का विकास होता है, वहीं दूसरी ओर भविष्य में उत्पन्न होने वाली सम्भाव्य समस्याओं के प्रति सजग रहने की प्रकृति भी बढ़ती है। यही एक ऐसा विषय है जो मनुष्य को एक आदर्श सामाजिक प्राणी का जीवन जीने की कला से परिचित

कराता है। इसी विषय के माध्यम से देश की प्राचीन सस्कृति, सभ्यता, तथा परम्परा का परिचय होता है। फलतः सहिष्णुता, सौहार्द्र तथा भ्रातृत्वभाव की भावना जाग्रत होती है।

यह सत्य है कि सामाजिक अध्ययन दैनिक जीवन की साधारण आवश्यकता को पूरा नहीं करता, परन्तु सामाजिक परिवेश, हमारी सस्कृति, देश की शासन व्यवस्था, भौतिक पर्यावरण के ज्ञान तथा मानसिक विकास के दृष्टिकोण से इसके महत्व पर किसी प्रकार का संदेह नहीं किया जा सकता। आधुनिक समाज की सामाजिक एवं सास्कृतिक आवश्यकताओ तथा उनके मूल्यों के अनुरूप जीवनयापन का विशिष्ट मानसिक प्रशिक्षण छात्र सामाजिक अध्ययन द्वारा ही प्राप्त करते हैं।

शिक्षा जीवन पर्यन्त चलने वाली एक सामान्य सामाजिक प्रक्रिया है। अतः देखने मे आता है कि छात्र जीवन भर जो कौशल प्राप्त करते हैं उसे सामाजिक, आर्थिक, सांस्कृतिक एवं राजनैतिक पृष्ठभूमि में सामान्य रूप से समझते भी है, जिस पर आधुनिक एव भविष्य की सभ्यता का विकास निर्भर है।

सामाजिक अध्ययन का शिक्षण एक ओर छात्रों को आस-पास के भौतिक वातावरण से जोडता है, जिसमें रहकर वह अपना सर्वागीण विकास करते हैं, तथा दूसरी ओर उन सामाज़िक संस्थाओ के साथ सम्बन्ध स्थापित करता है, जिनका मनुष्य ने निर्माण किया है तथा जो सामाजिक विकास के लिए अनिवार्य है।

सामाजिक अध्ययन ऐसी मानसिक आदतो का निर्माण करने मे सहायता करता है जो आधुनिक समय की राजनैतिक, सामाजिक एवं आर्थिक समस्याओं को सुलझाने मे सहायक होती है। सामाजिक अध्ययन छात्र की कल्पना शक्ति को विकसित एवं परिमार्जित करता है जिसके द्वारा छात्र अपने जीवन में विवादास्पद प्रश्नों को संतोषजनक रूप से हल करने की चेष्टा करते हैं।

डॉ. गुरुप्रसाद त्रिपाठी ने सामाजिक अध्ययन विषय की अनिवार्यता के प्रतिपादन में कहा है, "शिक्षा और समाज आपस में अन्योन्याश्रित हैं। शिक्षा की जडें समाज की पृष्ठभूमि मे गहराई तक समाई होती हैं, वर्तमान उसकी कार्यभूमि होती है तथा अनागत भविष्य उसका लक्ष्य होता है। भारतीय संस्कृति भविष्य के प्रति अधिक आस्थावान रही है। अतीत के अनुभव आत्मसम्बल बनते हैं तथा वर्तमान की चुनौतियां उसकी कार्य संस्कृति के कारक तत्व के रूप में ही स्वीकार्य रहे हैं। यदि हम सुदृढ़ भविष्य व समाज की कल्पना करना ही चाहते हैं, तो सम्भवतः वर्तमान शिक्षा व्यवस्था मैं सामाजिक अध्ययन विषय को सामाजिक ज्ञान और अभिवृत्तिमूलक विषय की दृष्टि से आधुनिक स्कूली पाठ्यक्रम का अनिवार्य अंग बनाना होगा।"

यहां यह उल्लेख प्रासंगिक होगा कि केन्द्र व राज्य सरकार का हमेशा से प्रयास रहा है कि बालकों में सामाजिक, नैतिक, आध्यात्मिक तथा राजनैतिक मूल्यों का निरन्तर विकास होता रहे। परन्तु यह खेद का विषय है कि भारत जैसे सामाजिक मूल्य प्रधान देश में जिस स्तर से सामाजिक मूल्यों का शिक्षा के माध्यम से समावेश होना चाहिए, नही हो पा रहा है। इसका प्रमुख कारण यह है कि वर्तमान शिक्षा व्यवस्था में विज्ञान तथा तकनीकी विषयो के अध्ययन-अध्यापन पर व्यक्तिगत स्तर पर अधिक महत्व दिया जा रहा है। फलतः सामाजिक पक्ष बौना होता जा रहा है। अतः भावी नागरिक अर्थात् आज के बालकों की सामाजिक, बौद्धिक, आध्यात्मिक, नैतिक, धार्मिक, सांस्कृतिक तथा राजनैतिक ज्ञान राशि में निरन्तर वृद्धि की यथेष्ट कोशिश के रूप में विज्ञान व भाषा-शिक्षण के साथ ही भूगोल, अर्थशास्त्र, नागरिक शास्त्र इतिहास तथा समाज शास्त्र आदि विषयों को भी विज्ञान की भांति ही सर्वत्र महत्व दिया जाना चाहिए। इस विषय की शिक्षण व्यवस्था तथा शिक्षक प्रशिक्षण पर विशेष ध्यान देने की आवश्यकता है।

यह एक बडा दुःखद आश्चर्य है कि मानव सामाजिक मूल्यों के अभाव मे भी वैज्ञानिक उन्नति कर रहा है, और इसे ही मानव प्रगति मानने लगा है। वास्तविकता यह है कि वैज्ञानिक उन्नति का मानव प्रगति से कोई सरोकार नहीं है। मानव ने कितने अत्याधुनिक यंत्रों का निर्माण किया, चन्द्रमा की यात्रा की, समुद्र की गहराई नापी लेकिन हमारे नाक, कान, आख के रूपाकार में कोई परिवर्तन नहीं हुआ है। शायद कई हज़ार वर्षो तक शारीरिक बनावट ऐसी ही रहेगी। अतः परिवर्तनशील समाज के लिए यह आवश्यक है कि वह सामाजिक परिवर्तन का अनुसरण करने के लिए अपने पुत्र-पुत्रियों को विज्ञान की अति चरमसीमावादी दौड से थोड़ा अलग करने की कोशिश करें तथा प्रारम्भ से ही सामाजिक

अध्ययन एवं विज्ञान में अधिक भेदभाव की प्रवृत्ति को बच्चों में जन्म न दें। बालक का हृदय कोरी स्लेट होता है। जैसा वह वातावरण में देखेगा, सुनेगा वैसा ही अपने अबोध मन पर अंकित कर लेगा। अतः यदि सामाजिक अध्ययन अध्यापन को विद्यालय व समाज के स्वस्थ वातावरण से जोड़ दिया जाए तो इस विषय की भूमिका प्रभावकारी सिद्ध हो सकती है।

बालक के सर्वांगीण विकास के लिए स्वस्थ भौतिक वातावरण के साथ स्वस्थ सामाजिक वातावरण का होना भी अनिवार्य है, अन्यथा जंगल में रहने वाले प्राणी व उसमें कोई विभेद नहीं होगा। स्वस्थ सामाजिक वातावरण के लिए सामाजिक ज्ञान का होना जरूरी है। सामाजिक ज्ञान का विज्ञान सामाजिक अध्ययन है, अतः किसी भी युग में सामाजिक विषयों के शिक्षण की प्रासंगिकता बनी रहेगी, क्योंकि उसका सम्बन्ध मानवीय पक्ष से जुड़ा हुआ है। ❑❑

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विकेन्द्रीकृत नियोजन में ग्राम समिति का सहयोग एवं स्थान

❑ कु. सुषमा शाह

हमारे देश में प्राचीन (वैदिक युग) समय से ही राजाओ के राज की प्रथा रही है, जो विकेन्द्रीकरण के परिचायक हैं। विदेशियों के आगमन अर्थात् ब्रिटिश शासन से पूर्व तक भी राजाओं का राज हुआ करता था। जो पूर्णतः केन्द्रीयकृत होता था। राजा अपने पूरे क्षेत्र पर एक ही प्रकार, स्थान एवं एकाधिकार से 'राज' करता था। उस प्रणाली में कहीं भी 'प्रजातंत्र प्रणाली' के दर्शन नहीं होते थे। परिणामस्वरूप राजा को विभिन्न प्रकार की छोटी-बड़ी समस्याओं का सामना करना होता था। साथ ही राजा पर कार्य की अधिकता होती थी तथा उसे जनता द्वारा दिए गए 'अधिकारों' के दुरुपयोग के ताने भी सुनने होते थे और न ही ठीक प्रकार से लोककल्याण होता था। राजा द्वारा नियुक्त कर्मचारी भी कर्तव्यनिष्ठ कम ही होते थे। वे लोककल्याण से ज़्यादा राजा को खुश करने में अधिक प्रयत्नशील होते थे। इसी प्रकार राजा भी क्षेत्र की सीमा रेखा बढ़ने तथा स्व के लाभ में अधिक रुचि रखते थे।

गांधी जी ने स्वतंत्र भारत में 'पंचायती राज' का सपना देखा था, जो न सिर्फ 'प्रजातन्त्र' की नींव है बल्कि यह वर्तमान आवश्यकता भी है कि विभिन्न शक्तियों, अधिकारों को सम्पन्न कर देश के सुसंगठित संचालन हेतु प्रत्येक व्यक्ति का सहयोग लिया जाए। यही हमारी स्वतंत्रता की पहचान भी है अन्यथा हम परतन्त्र ही कहे जाएंगे। इसी बात को ध्यान में रखते हुए हमारे देश के महान व्यक्तियों ने संवैधानिक आवश्यकता की पूर्ति के लिए प्रजातांत्रिक प्रणाली को विस्तृत रूप में परिभाषित कर ग्राम पंचायतों एवं विकास खण्डों आदि का निर्माण एवं संगठन किया। जिन्हें हम सत्ता का केन्द्रीय तथा विकेन्द्रीकरण कह सकते हैं। स्वतंत्र भारत मे आज हम प्रजातांत्रिक प्रणाली को साथ लेकर चल रहे हैं, किन्तु फिर भी हमारी सत्ता का मुख्य केन्द्र तो एक ही है।

स्वतंत्र भारत में देश के सुचारू तथा व्यवस्थित संचालन हेतु केन्द्रीय तथा विकेन्द्रीय स्तर की विभिन्न योजनाओं का निर्धारण किया जा रहा है। जैसे – पंचवर्षीय योजनाएं आदि। ये योजनाएं सिर्फ किसी एक उद्देश्य या फिर किसी एक विषय को ध्यान में रखकर निर्धारित नहीं की गई हैं। योजनाओ की केन्द्रीय एवं विकेन्द्रीय शक्तियों आदि से संबंधित समस्त मुद्दो को भी ध्यान मे रखते हुए केन्द्र से लेकर विकेन्द्र स्तर तक की योजनाओं के निर्धारण को हमारी सरकार ने महत्वपूर्ण समझा है। क्योंकि हमारे देश में प्रशासन का नियन्त्रण दो स्तरों में होता है – केन्द्रीय और विकेन्द्रीय। शिक्षात्मक विषय अर्थात शिक्षा के क्षेत्र में भी हमारे देश में शैक्षिक प्रशासन के नियन्त्रण का प्रयोग दो स्तरों पर होता आ रहा है – केन्द्रीय शैक्षिक प्रशासन और विकेन्द्रीय शैक्षिक प्रशासन।

प्रशासन चाहे किसी भी स्तर या विषय का हो, लेकिन उस पर नियन्त्रण रखने तथा उद्देश्यों की प्राप्ति हेतु योजनाओं का पूर्व निर्धारण अति आवश्यक है। यही कारण है कि शैक्षिक प्रशासनिक नियन्त्रण के साथ-साथ शैक्षिक योजनाओं का निर्धारण भी केन्द्रीय तथा विकेन्द्रीय दो स्तरों पर किया जाता है जिन्हें हम केन्द्रीयकृत तथा विकेन्द्रीकृत नियोजन के नाम से जानते हैं।

विकेन्द्रीकृत नियोजन की संकल्पना

'विकेन्द्रीकृत नियोजन' शब्द मूलतः दो शब्दों – 'विकेन्द्रीकृत' एवं 'नियोजन' से मिलकर बना है। 'विकेन्द्रीकृत' को विकेन्द्रीकरण नाम से भी जानते हैं। शब्दकोषानुसार 'विकेन्द्रीकृत' का अर्थ – किसी केन्द्रीयभूत व्यवसाय, कार्यवस्तु, शासन की व्यवस्था का भिन्न भागों में विभाजित होना, केन्द्रीयकृत का उलटा आदि बताया गया है। इसी

प्रकार 'नियोजन' शब्द का अर्थ - किसी काम में लगाना, नियोजित, नियोज्य, नियुक्ति आदि बताया गया है। अर्थात् विकेन्द्रीकरण की प्रक्रिया सत्ता, विधान न्याय या प्रशासन का सरकारी उच्च स्तर से निम्न स्तर की ओर स्थानान्तरण को व्यक्त करती है। ये केन्द्रीयकरण का विपरीत अर्थ है और इसे डीकन्सेन्ट्रेशन से भ्रमित नहीं होना चाहिए। इसमें उच्च सत्ता से निचले स्तर की सत्ता को कार्य करने की शक्ति तो दी जाती है परन्तु अधिकार उसे हस्तान्तरित नहीं होते। केन्द्रीकरण का अर्थ केन्द्रीय नियन्त्रण है, जिसमें अन्य का नियन्त्रण या तो अत्यन्त अल्प होता है अथवा होता ही नहीं है।

'नियोजन' प्रायः व्यापक एवं व्यवस्थित रूप में सतत् चलने वाला होता है कि "क्या, क्यों और कैसे" किया जाए जिससे उद्देश्य की प्राप्ति आसानी से हो जाए। स्पष्ट शब्दों में कहें तो हम कह सकते हैं कि नियोजन का अर्थ है किसी उद्देश्य की प्राप्ति हेतु कार्य प्रारूप को पहले से निश्चित करने की प्रक्रिया जिससे राष्ट्रीय नीति द्वारा निर्धारित परिवर्तन को लाया जा सके। अर्थात् भविष्य में कार्य किए जाने वाले विभिन्न कार्यों हेतु नियमों आदि को तैयार करने की प्रक्रिया ही 'नियोजन' है, ताकि हम संभावित साधनों से विशिष्ट लक्ष्यों की प्राप्ति कर सकें।

नियोजन में प्रायः समय सीमा, उद्देश्य, मानवीय एवं भौतिक साधनों को विशेष रूप से ध्यान में रखा जाता है। नियोजन के साथ ही किसी भी उद्देश्य की प्राप्ति के लिए जो कि जन कल्याण से सम्बन्धित हो, जन सहयोग का होना भी अतिआवश्यक होता है।

यही वजह है कि शिक्षा के क्षेत्र में भी विकेन्द्रीकृत प्रशासन प्रणाली को अपनाया जाता है। अर्थात् शिक्षा का प्रशासन एवं नियोजन त्रिचक्रीय व्यवस्था पर निर्धारित होता है। इस त्रिचक्रीय व्यवस्था के अन्तर्गत ग्राम स्तर पर ग्राम पंचायत, विकास-खण्ड स्तर पर पंचायत समिति तथा ज़िला स्तर पर जिला परिषद् आते हैं। अतः विकेन्द्रीकृत शिक्षा व्यवस्था में उपरोक्त त्रिचकीय व्यवस्था का समावेश होता है। इसके अतिरिक्त शिक्षा के क्षेत्र में यह भी माना जाता है कि विकेन्द्रित प्रशासन में सत्ता उच्च से निम्न स्तर तक हस्तान्तरित कर दी जाती है। वह विद्यार्थी, अभिभावक, स्थानीय समुदाय तक विकेन्द्रित हो सकती है। दूसरे शब्दों में हर अभिभावक और समुदाय को अपनी रुचि, क्षमता और सामुदायिक आवश्यकता के अनुरूप शिक्षा की व्यवस्था करने का अधिकार है और इन्ही समस्त मुददों को ध्यान में रखते हुए जो शैक्षिक योजनाएं बनाई जाती हैं उन्हीं को हम 'विकेन्द्रीकृत नियोजन' के नाम से जानते हैं।

संक्षेप में हम कह सकते हैं कि 'विकेन्द्रीकृत नियोजन' शिक्षा के उद्देश्यों की प्राप्ति हेतु विभिन्न भागों में शिक्षा प्रशासन को बांटना तथा उसके अनुरूप योजनाओं का निर्धारण करना है जिससे उद्देश्य की प्राप्ति आसानी से हो सके।

विकेन्द्रीकृत नियोजन का महत्त्व

सामाजिक, आर्थिक, राजनैतिक क्षेत्रों के साथ शिक्षा के क्षेत्र में भी नियोजन का अत्यधिक महत्व है। यह नियोजन चाहे फिर केन्द्रीकृत हो या विकेन्द्रीकृत। नियोजन आधुनिक तकनीकी समाज की जटिलताओं से उत्पन्न विभिन्न समस्याओं के समाधान में भी सहयोगी है। साथ ही जनसंख्या वृद्धि को रोकने, मानव शक्ति की आवश्यकता हेतु प्राकृतिक संसाधनों में हो रही कमी को रोकने के लिए तथा वैज्ञानिक विकासों के विध्वंसात्मक प्रयोग आदि से उत्पन्न समस्याओं के समाधान में भी नियोजन अहम भूमिका अदा करता है।

नियोजन प्रायः उद्देश्य की पूर्ति तथा भविष्य के संभावित विकास हेतु महत्वपूर्ण माना जाता है। इससे न सिर्फ समय, धन एवं प्रयास आदि की बचत होती है वरन् वांछित परिवर्तन, समस्या समाधान तथा समय के साथ चलने हेतु मार्ग प्रदर्शित होता है। नियोजन उद्देश्य से संबंधित व्यक्तियों को उत्तरदायित्वों आदि के प्रति जागृत करता है।

शिक्षा के क्षेत्र में शैक्षिक नियोजन प्रायः दो स्तरों पर होता है - केन्द्रीयकृत एवं विकेन्द्रीकृत। इन दोनों ही प्रकार के नियोजनों का अपनी-अपनी जगह अपना-अपना महत्व है। विकेन्द्रीकृत स्तर की योजनाओं पर केन्द्रीय योजना का अधिकार तो होता ही है। देखने में आता है कि केन्द्रीकृत से कार्यकर्ताओं, स्थानीय जनता आदि में पृथक्करण एवं दूरी बढ़ती है। साथ ही कर्मचारियों पर ही समस्त उत्तरदायित्वों को छोड़ देने से कई प्रकार की धांधलियां होती हैं जिसके फलस्वरूप योजनाएं सुचारू रूप से कार्यान्वित नहीं हो पाती

हैं और लक्ष्य प्राप्ति तथा विकास आदि हो जाता है। अतः इन समस्याओं के समाधान हेतु भी विकेन्द्रीकृत नियोजन का महत्व अधिक है। क्योंकि इसमें स्थानीय जनता को प्रशासन के निकट तो लाया ही जाता है साथ ही प्रशासनिक व्यवस्था को स्थानीय संस्थाओं, अधिकारियो को सौंपने से निरीक्षण, आयोजन आदि सम्पूर्ण उत्तरदायित्वो का निर्वाह भी आसानी से होता है।

विकेन्द्रीकृत नियोजन द्वारा आपस में सम्बद्ध और प्रबन्ध की जा सकने वाली इकाइयों का निर्माण होता है। साथ ही स्व-निर्धारण हेतु अधिकारों को मान्यता प्रदान करने में भी विकेन्द्रीकृत नियोजन महत्वपूर्ण भूमिका अदा करता है।

विकेन्द्रीकृत नियोजन, स्वतन्त्रता, उत्साह, प्रोत्साहन, आर्थिक सहायता एवं अनुरक्षण मे भी महत्वपूर्ण स्थान रखता है। अर्थात् विकेन्द्रीकृत नियोजन सम्बद्ध व्यक्ति को जहॉ स्वतन्त्रता, प्रोत्साहन, कार्य के प्रति उत्साह प्रदान करता है वहीं उन्हें आर्थिक सहायता भी प्रदान करते हुए उनकी रक्षा करने में भी सहायक होता है।

कार्य के प्रति एकरूपता, नीरसता को समाप्त करने में भी विकेन्द्रीकृत नियोजन महत्वपूर्ण होता है। विकेन्द्रीकृत नियोजन द्वारा योजनाओं में परिवर्तन कर नीरस एकरूपता को विविधता में परिवर्तित किया जा सकता है। इससे कार्य में नवीनता, सृजनात्मकता एवं मौलिकता को भी स्थान प्रदान किया जा सकता है। साथ ही विकेन्द्रीकृत नियोजन समायोजन जैसे कार्यों में भी अपनी महत्ता को दर्शाता है।

विकेन्द्रीकृत नियोजन देश के विकास में राज्य एवं क्षेत्रों की सहभागिता को बढ़ाने में महत्वपूर्ण होता है।

शैक्षिक विकेन्द्रीकृत नियोजन का महत्व शिक्षा प्रशासन, शिक्षा उद्देश्यों के निर्धारण एवं प्राप्ति, धांधलियों को रोकने, स्थानीय क्षेत्रों की समस्याओं के समाधान खोजने में सहायक होता है।

ग्राम समिति का सहयोग एवं स्थान

देश के विकास, सुसगठित संचालन तथा उद्देश्य प्राप्ति हेतु विकेन्द्रीकृत नियोजन में ग्राम समिति का सहयोग एवं स्थान महत्वपूर्ण माना गया है। यह विकेन्द्रीकृत प्रशासन की वह इकाई है जिसमें स्थानीय जनता अत्यधिक निकट होती है। इनके माध्यम से हम छोटे-से-छोटे और बड़े-से-बडे कार्य में स्थानीय लोगों की सहायता तो लेते ही हैं साथ ही हमें इन व्यक्तियों की समस्याओं, आवश्यकताओं आदि के बारे में ज्ञान प्राप्त होता है जो 'नियोजन' के समय हमारी सहायता करता है।

ग्राम समितियां ग्राम तथा व्यक्ति आदि के विकास हेतु विभिन्न विकासात्मक कार्य करती हैं। वहीं शिक्षा के क्षेत्र में प्राथमिक पाठशालाओं की व्यवस्था, माध्यमिक स्तर तक छात्रवृत्तियां व भत्ते प्रदान करना, प्राथमिक पाठशालाओं को बुनियादी शिक्षा की पाठशालाओ के रूप में परिवर्तित करना, ग्रामीण पुस्तकालयों व वाचनालयों की स्थापना करना, सूचना, मनोरंजन व सामुदायिक कार्यों के केन्द्र स्थापित करना, समाज शिक्षा की क्रियाओं जैसे बाल मंडलों, युवक मंडलों आदि की स्थापना करना, शिक्षक नियुक्ति, उप शिक्षा निरीक्षक की सहायता से स्थानान्तरण करना, शिक्षकों के विरुद्ध अनुशासनात्मक कार्यवाही करना, स्थानीय समितियों के सहयोग की व्यवस्था करना, धन व्यवस्था करना, शालाओं का निरीक्षण एवं सुधार करना, गाव के सर्वागीण विकास के कार्य करना, आर्थिक विकास, अन्तर्निहित शक्तियों का विकास, साक्षरता एवं समस्याओं हेतु व्यावहारिक हल प्रदान करना, स्वस्थ जीवन, संस्कृति के परिचय, अवकाश काल का सदुपयोग, व्यावहारिक जीवन के क्रियाकलापों के प्रशिक्षण हेतु व्यापक क्षेत्र प्रस्तुत करना, शैक्षणिक सुधार करना, भवन-निर्माण करना, समाज में शिक्षा के माध्यम से सामाजिक चेतना तथा परिवर्तन हेतु कार्य करना, जन सामान्य में ज्ञान के उत्तम प्रसार हेतु कार्य करना आदि में भी अपना सहयोग प्रदान करती है। इन्हीं कार्यो एवं उद्देश्यों आदि को ध्यान में रखते हुए ग्राम समिति 'विकेन्द्रीकृत नियोजन' का निर्धारण करने हेतु आवश्यक सहयोग प्रदान करती है और जहॉ संभव हो वहॉ स्वयं 'नियोजन' कर प्रशासन पर नियन्त्रण भी रखती है।

संक्षिप्त में हम कह सकते हैं कि विकेन्द्रीकृत नियोजन में ग्राम समितियों का स्थान अतिआवश्यक एवं महत्वपूर्ण माना गया है और इन्हीं की सहायता से हम विकेन्द्रीकृत प्रणाली को अपनाकर देश के विकास में स्थानीय जनता का सहयोग प्राप्त कर प्रजातांत्रिक देश की पहचान कायम रख सकते हैं। ❑❑

वरिष्ठ शोध छात्रा
देवी अहिल्या विश्वविद्यालय
इन्दौर, म. प्र.

प्रदूषण संचेतना और समाचार-पत्र

❑ मिथिलेश स्वामी

प्रदूषण का कोशगत अर्थ है - नष्ट करना, अपवित्र करना। आज प्रदूषण कोशगत अर्थ को त्याग कर वातावरण को दूषित करने के अर्थ में प्रयुक्त होता है। प्राकृतिक वायु और जल को नष्ट करना प्रदूषण का काम है।

प्रदूषण विज्ञान की देन है। औद्योगिक समृद्धि का अभिशाप है, मानव को मृत्यु के मुंह में धकेलने की अनचाही चेष्टा है। बीमारियों को बिन मांगे शरीर में प्रवेश करने की सुविधा है, प्राणी मात्र के अमंगल की अप्रत्यक्ष कामना है। ठीक ही कहा है पंत जी ने ......

दूषित वायु, दूषित जल कैसे हो जीवन मंगल।
क्षीण आयु, क्षुब्ध जल, कैसे ये जन्म सफल।।

सृष्टि के आरम्भ में प्रदूषण का नामोनिशान भी नहीं था। प्रकृति में एक संतुलन बना हुआ था, दूसरे शब्दों में प्रत्येक वस्तु स्वच्छ थी, जल शुद्ध था, धरती उपजाऊ थी।

जनसंख्या वृद्धि के साथ-साथ उत्पादन वृद्धि पर भी ज़ोर दिया जाने लगा। विज्ञान और प्रौद्योगिकी को पूरी तरह से उत्पादन बढ़ाने में लगा दिया गया। उत्पादन केन्द्रों के लिए स्थान चाहिए। परिणामस्वरूप वृक्षों का ह्रास हुआ और हरे-भरे खेत औद्योगिक क्षेत्रों मे बदल गए, इससे प्रदूषण को बचाने की पर्यावरण क्षमता शिथिल हो गई। उत्पादन के अवशेष इकट्ठे होने लगे। कचरा मशीन युग की एक भयंकर समस्या बन गई। इस कचरे को प्रायः जला दिया जाता है या भराव में काम में लिया जाता है जिससे वायु प्रदूषण या जीवाणु प्रदूषण उत्पन्न होता है।

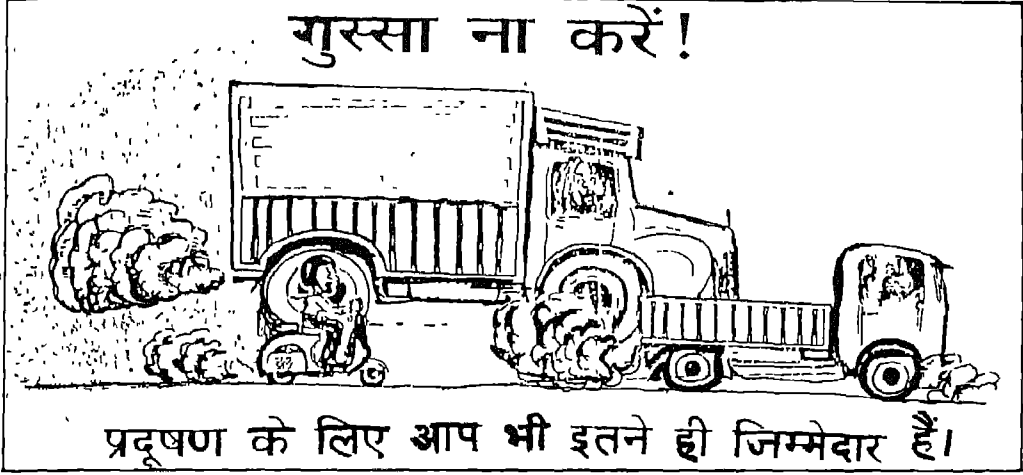
कारखानों की चिमनियों व मोटर वाहनों से निकलने वाली गैसें वायु को प्रदूषित करती हैं। वायु प्रदूषण से श्वास संबंधी रोग उत्पन्न होते हैं। इस प्रकार वायु प्रदूषण धीमे जहर का काम करता है। समाचार-पत्रों के द्वारा इस संदर्भ में लोगों मे संचेतना जागृत की जा सकती है। उदाहरण के लिए 'नवभारत टाइम्स' से प्राप्त कतरन को चित्र 1 में दर्शाया गया है।

समाचार-पत्रों में प्रदूषण की मात्र जानकारी ही नहीं होती इसमें विविध मानवीय रुचियों से सम्बन्धित कथा, कहानियां, खेलकूद, वृत्तांत, मनोरंजनपूर्ण घटनाए, सूचनाएं, वर्गीकृत विज्ञापन और चित्र आदि भी होते हैं। अधिकांशतः समाचार-पत्र ज्ञान और अधिगम अनुभवों का ऐसा स्रोत भी है, जो किसी भी विषय और आयु के अनुकूल होता है। 'वस्तु एक उपयोग अनेक' का कथन समाचार-पत्रों पर ठीक लागू होता है।

समाचार-पत्रों में छपे विज्ञापन मानव पटल पर अपनी छाप छोड़ जाते हैं, सोचने के लिए मजबूर करते हैं।

डीज़ल, पेट्रोल से चलने वाले वाहन वायु को प्रदूषित करते हैं। इन वाहनों से निकलने वाली कार्बनडाईआक्साइड, सल्फ्यूरिक एसिड और शीशे के तत्व हवा में घुल जाते हैं तथा वायु को प्रदूषित करते हैं (चित्र 2)। इन सबकी रोकथाम के लिए समाचार-पत्रों व पत्रिकाओं द्वारा भी जन-जागृति का कार्य किया जा रहा है जो जनमानस को अवश्य प्रभावित करता है। वायु प्रदूषण रोकने के लिए सरकार द्वारा

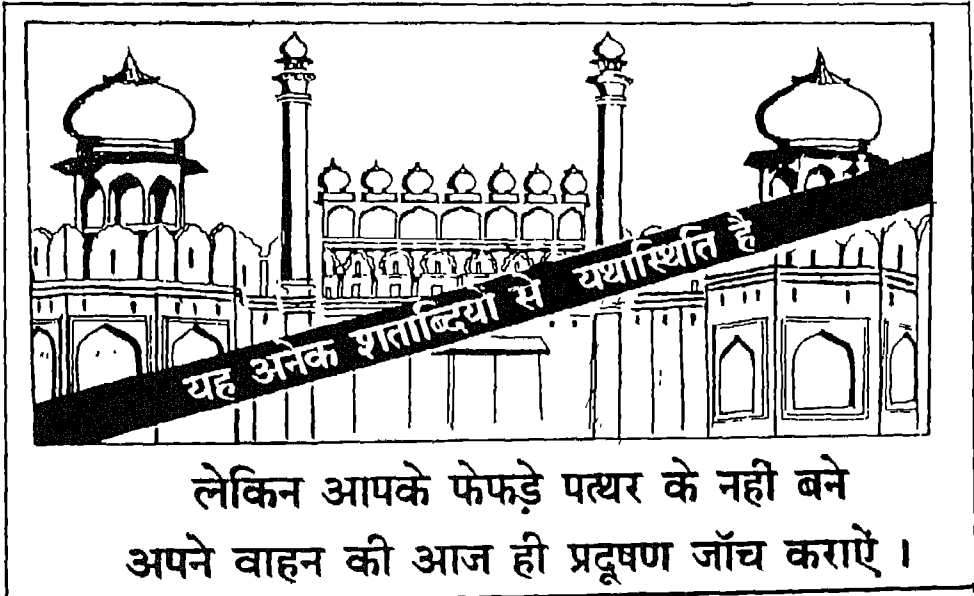
जिस हवा में हम सांस लेते हैं उसे ही प्रदूषित करते हैं। प्रदूषण रोकिए।

चित्र 1

नवभारत टाइम्स (4-7-95) के सौजन्य से

चित्र 2

समाचार-पत्रों मे दिए गए विज्ञापन जन-जागृति का काम करते हैं (चित्र 3)।

मात्र दिल्ली में हर रोज सभी स्रोतों से 2000 मीट्रिक टन प्रदूषण कारक तत्व छोड़े जा रहे हैं जिनमें से 250 मीट्रिक टन तो उद्योगों द्वारा ही छोड़े जाते हैं। इनमे से प्रमुख तत्व हैं — सल्फर-डाईआक्साइड, पार्टिकुलेट मैटर, नाइट्रोजन ऑक्साइड, कार्बन मोनो ऑक्साइड आदि। इनकी वजह से आंखो में जलन, सास सम्बन्धी बीमारियां, सिरदर्द और दिल की बीमारिया भी हो सकती हैं।

मोटर कारों द्वारा छोड़े विषाक्त धुएं से भविष्य में होने

चित्र 3

पंजाब केसरी (21-6-95) के सौजन्य से

चित्र 4

वाली स्थिति को चित्र 4 द्वारा दर्शाया गया है।

बढ़ती आबादी भी कम गंदगी नहीं फैलाती। बड़े-बड़े नगर बस गए, मल निकासी के लिए बड़ी-बडी नालियां निकाली गई जो अंततः नदियों में ही गिरती हैं। कूड़े कचरे और अन्य प्रकार की गंदगी जहा-तहां फैल जाती है। उसे भी नदियों या जलाशयो में ही शरण मिलती है। इस प्रकार हवा और पानी प्रदूषित हो जाते है। जब हमारी नदियां गंदी होती हैं तो पूरी सभ्यता गंदी होती है :

आधुनिक युग में मुख्य रूप से चार प्रकार के प्रदूषण फैल रहे हैं और भविष्य में इनका कुप्रभाव कितना फैलेगा, बताना मुश्किल है।

ये प्रदूषण हैं - भूमि, वायु, जल और ध्वनि संबंधी। हम सभी जानते हैं कि प्रायः सभी जीवधारियो के लिए प्राण-वायु आवश्यक है। यदि प्राण-वायु दूषित हो जाए तो जीवधारियों को जीने के लाले पड जाएंगे। हवा के बाद दूसरी

जब कोई नदी रोती है,
तो पूरी सभ्यता नष्ट हो सकती है...

नवभारत टाइम्स (12-7-95) के सौजन्य से

चित्र 5

आवश्यकता है पानी। पानी भी अब पीने के लिए शुद्ध नहीं मिलता जबकि अन्य जीवों, पेड़-पौधों के लिए भी शुद्ध पानी ही चाहिए। नदी में यदि एक स्थान का जल दूषित हो जाता है, तो पूरी नदी का पानी प्रदूषित हो जाता है।

वैज्ञानिक खोजों से पता चलता है कि मौसम मे परिवर्तन, फेफड़ों व हृदय के रोगों, कैंसर, मानसिक तनाव आदि का मुख्य कारण है - प्रकृति में असंतुलन। हम सभी जानते हैं कि धरती पर जीवन प्रकृति संतुलन से ही संभव हो सका है। पहले प्रकृति के विभिन्न तत्वो में संतुलन था। धरती वनस्पतियों से पूरी तरह ढक न जाए इसलिए घास खाने वाले जानवर पर्याप्त सख्या मे थे और इन जानवरों की संख्या अधिक न बढ जाए इसलिए हिंसक जंतु भी थे।

आधुनिक युग में वैज्ञानिक आविष्कारों के कारण बड़े पैमाने पर उद्योग धंधे पनपे है, जनसंख्या विस्फोट हुआ है। 1947 में देश की आबादी करीब 32 करोड़ थी जबकि अब 85 करोड से भी अधिक हो गई है। इस बढ़ती हुई आबादी को खिलाने के लिए उसी मात्रा में अन्न, सब्जी, फल आदि भी चाहिए, रहने के लिए घर और पहनने के लिए कपड़ों की भी ज़रूरत है। इसलिए जंगलों को बडे पैमाने पर काटा गया। इससे वातावरण दूषित होता चला गया। स्थिति यहां तक आ गई कि पृथ्वी का सुरक्षा कवच तक हिल उठा।

कल-कारखानों से निकले सल्फ्यूरिक अम्ल (H_2SO_4) और नाइट्रोजन के आक्साइड कल-कारखानों, बिजली घरो तथा वाहनों के ईधन के जलने से बनते हैं जो वर्षा को अम्लीय बना देते हैं। इससे वन, नदियों, फसलो, जलीय जीवों आदि पर सीधा असर पड़ता है। नवभारत टाइम्स (18 जुलाई, 1995) में प्रकाशित एक समाचार इसकी जानकारी देते हुए लिखते हैं :

"ओजोन मण्डल पृथ्वी का रक्षा कवच है। इस मण्डल में पाए जाने वाले ओजोन गैस आक्सीजन का आक्सीकृत रूप है जिसके एक अणु में आक्सीजन के तीन परमाणु होते है। यह नीले रग, तीक्ष्ण गंधयुक्त प्रदूषक गैस है। ओजोन मण्डल पृथ्वी से लगभग 25 से 40 किलोमीटर की ऊचाई पर स्थित है। ओजोन परत की मोटाई केवल 3 मिलीमीटर है फिर भी यह सुरक्षा कवच का कार्य करती है।

सूर्य से निकलने वाली पराबैंगनी किरण जो हमारे शरीर के लिए काफी घातक है, ओजोन परत उसके अधिकांश भाग का अवशोषण कर लेता है। यह दुर्भाग्य है कि उसी ओजोन परत के साथ हम लोग खिलवाड़ कर रहे है। बच्चों तुम अपने घर में फ्रिज़, वातानुकूलित यत्रों में जिस क्लोरो-फ्लोरो कार्बन का इस्तेमाल करते हो क्या तुम्हें मालूम है कि उसका एक अणु ओजोन के लाखों अणुओ को तोड डालता है। क्लोरो-फ्लोरो कार्बन जब वायुमडल मे मुक्त होते है तो सीधे वायुमंडल की ऊपरी सतह पर पहुच जाते है और सूर्य की पराबैगनी किरणें क्लोरो-फ्लोरो कार्बन को तोड देती है। इस प्रकार पृथक हुई क्लोरीन ओजोन से क्रिया कर आक्सीजन बनाती है, जो सूर्य की पराबैगनी किरणो से हमारी रक्षा करने में अक्षम होता है। ओजोन मण्डल को हानि पहुचाने वाले अन्य कारको में वनों का विनाश, परमाणु बमो का विस्फोट, अतरिक्ष अनुसधान आदि भी उल्लेखनीय है।"

यही समाचार आगे बताता है :

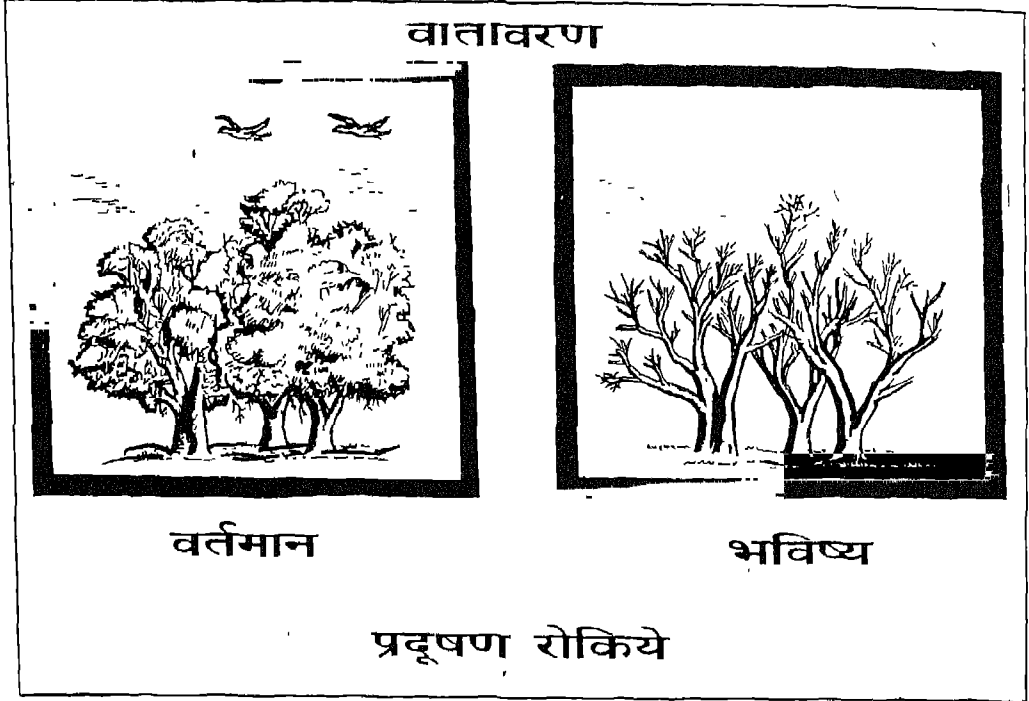
"अम्लीय वर्षा का मतलब वर्षा के पानी में अम्लों की बहुलता से है। फासिल ईंधनों के ज्वलन से सल्फर डाई आक्साइड (SO_2) एव नाइट्रोजन डाई आक्साइड (NO_2) की मात्रा वातावरण में बढ़ायी जा रही है। वातावरण की नमी के सम्पर्क में आने पर ये गैसें क्रमश गधक अम्ल व नाइट्रिक अम्ल बनाती है।

गधक अम्ल (H_2SO_4) तथा नाइट्रोजन के आक्साइड कल-कारखानों, बिजलीघरो तथा वाहनों के ईंधन के जलने से बनता है। यही वायुमंडल के सम्पर्क मे आकर वर्षा के पानी को अम्लीय बना देते है। अम्लीय वर्षा का प्रभाव हमारे वनो-नदियों, फसलो, जलीय जीवो आदि पर सीधा पडता है। इसका प्रभाव ऐतिहासिक इमारतो एव भौतिक सरचनाओ पर स्पष्ट रूप से देखा जा सकता है। ऐतिहासिक इमारतों को अम्लीय वर्षा से स्टोन कैंसर हो जाता है जो धीरे-धीरे इमारतो को जर्जरावस्था में ला देता है।"

प्रकृति में वायु प्रदूषण रोकने की प्रक्रिया अपने आप होती रहती है। पत्तियो में बारीक रंध्र होते है। इन्ही रंध्रों द्वारा वातावरण और पौधों मे गैसो का विनिमय होता है।

पेड-पौधे हमारे मित्र हैं। पर्यावरण में जो थोडा-बहुत प्रदूषण पहले होता था वह पेड-पौधो की सहायता से स्वय संतुलित हो जाता था। लेकिन आज पेड-पौधों की स्थिति क्या है, इस पर भी समाचार-पत्र प्रकाश डालते हैं :

प्रदूषण को रोकने में भी हम दो तरह से सहयोग दे सकते हैं - गंदगी न फैलाए और गंदगी साफ करने में सहयोग दें। आस-पास की नालियों को साफ रखें और जहां तहां कूड़ा कचरा आदि न फेंके। साथ ही अधिक से अधिक वृक्ष लगाएं। विद्यार्थी इस काम मे सहयोग दे सकते हैं। अध्यापक वर्ग इस कार्य के लिए उन्हे पर्यावरण संबंधित समाचार-पत्रों की कतरनों के द्वारा स्थिति समझाकर सफाई करने, वृक्ष लगाने के लिए प्रेरित करें जिससे पर्यावरण स्वस्थ, समृद्ध और सुन्दर बना रह सकता है।

प्रकृतिमय धरती ऐसी बनी रहे जिस पर .....
फूलहिं फलहिं विटप विधि नाना।

नवभारत टाइम्स (25-7-95) के सौजन्य से

चित्र 6

मंजू बलितवर बेलि बिताना।।
गूंज मंजुतर मधुकर श्रेणी।
त्रिविध बयारि बहइ सुखदेनी।।
ऋतु बंसत बह त्रिविध बयारी।
सब कहें सुलभ पदारथचारी।।

पर्यावरण-रक्षण भारतीय संस्कृति से जुड़ा है। पेड़ लगाना पुण्य का कार्य माना गया है। इसलिए अधिक से अधिक वृक्ष लगाए जाने चाहिए :

वृक्ष धरा का भूषण है।
करता दूर प्रदूषण है।।

सांस की बीमारियां हवा की गंदगी के कारण और पेट की बीमारियां गंदे पानी के कारण होती हैं। जीवन को स्वस्थ बनाए रखने के लिए शुद्ध हवा और स्वच्छ पानी दोनों ही नितान्त आवश्यक हैं। कल-कारखाने और तेज़ चलते वाहनों का भीषण शोर भी वातावरण को प्रदूषित करता है।

प्रदूषण की समस्या विश्वव्याप्त है। अध्यापक वर्ग इस समस्या को नियंत्रित करने के लिए छात्रों को प्रेरित करे। सरकार के प्रदूषण रोकने के लिए किए जा रहे प्रयासो को जनमाध्यम के द्वारा छात्र और उनके अभिभावकों तक पहुंचाया जा सकता है। साथ ही उन्हें इस व्याप्त संकट से बचने और इसे रोकने के लिए प्रेरित किया जाना चाहिए। अध्यापक प्रदूषण फैलाने वाले साधन, उनसे बचने के लिए विभिन्न उपायों के विज्ञापन, पर्यावरण सम्बन्धित ज्ञानवर्धक सामग्री आदि की समाचार-पत्र कतरने, विद्यालय के समाचार पट्ट पर लगाकर छात्रो को प्रदूषण रोकने में सहायक बनने के लिए उत्साहित कर सकते हैं। समाचार-पत्र पर्यावरण प्रदूषण सम्बन्धी जानकारी से भरे हैं, आवश्यकता है उसे जन-जन तक पहुंचाने की। ❑❑

वरिष्ठ प्रवक्ता
मण्डलीय शिक्षा और प्रशिक्षण संस्थान
दरियागंज, नई दिल्ली

सबके लिए शिक्षा की सहयोगी : क्षेत्र सघन शिक्षा परियोजना

क्षेत्र सघन शिक्षा परियोजना हमारे देश के पांच राज्यों - महाराष्ट्र, मिज़ोरम, उड़ीसा, तमिलनाडु, एवं उत्तर प्रदेश तथा एक केन्द्र शासित प्रदेश - दादर और नगर हवेली में गत सात वर्षों से चलाई जा रही है। इनके सोलह ब्लाकों के 1756 गांवों में यह परियोजना क्रियान्वित की गई है। यह परियोजना 'सभी के लिए शिक्षा' के क्षेत्र में अग्रगामी मानी गई है। इसके उद्देश्य और 'सभी के लिए शिक्षा' के उद्देश्य एक से हैं परन्तु इसके कार्यान्वयन में गांवो के क्षेत्र को प्राथमिकता दी गई है। इसके अनुभव "ज़िला प्राथमिक शिक्षा कार्यक्रम" के लिए बहुत सहायक हैं।

राष्ट्रीय शैक्षिक अनुसंधान और प्रशिक्षण परिषद् के निर्देशन मे यूनीसेफ की वित्तीय सहायता से उत्तर प्रदेश में राज्य शैक्षिक अनुसंधान और प्रशिक्षण परिषद् के प्रारम्भिक शिक्षा विभाग (राज्य शिक्षा संस्थान) इलाहाबाद के द्वारा इस परियोजना का क्रियान्वयन जनपद मिर्जापुर के दो विकास खण्डो - छानवे और नगर के 217 गांवों में वर्ष 1992 से किया जा रहा है।

क्यो ? यह जिज्ञासा होती है कि परियोजना का क्रियान्वयन क्यों किया जा रहा है। दूसरे शब्दों में कहा जाए तो परियोजना का उद्देश्य क्या है ?

यह एक सर्वमान्य तथ्य है कि मनुष्य के जीवन के विविध पक्षों के विकास के लिए शिक्षा बहुत आवश्यक है। शिक्षा के द्वारा ही आर्थिक और सामाजिक विकास हो सकता है। शिक्षा द्वारा.ही व्यक्ति को वह ज्ञान और कौशल प्राप्त होता है जिससे वह समाज का एक उपयोगी और उत्तरदायी सदस्य बन सके। शिक्षा के द्वारा ही जीवन स्तर को बेहतर बनाया जा सकता है। इसी के द्वारा अन्याय और शोषण का विरोध और अधिकार तथा कर्तव्य के विवेकपूर्ण प्रयोग की दृष्टि प्राप्त होती है।

देश के स्वतंत्र होने पर प्राथमिक शिक्षा के सावर्जनीकरण का लक्ष्य पूरा करने का संकल्प लिया गया था जिसे हम स्वतंत्रता प्राप्ति के चार दशक बाद भी पूरा नहीं कर पाए। प्राथमिक शिक्षा सार्वजनीकरण का अर्थ है कि विद्यालय जाने वाली उम्र के सभी बच्चे शिक्षा प्राप्त करने लगें।

गत वर्षो के अनुभवों से लगता है कि यह कोई आसान काम नहीं है। शिक्षा प्राप्ति का अवसर सुलभ कराना अर्थात् विद्यालय की सुविधा उपलब्ध कराना, बच्चों का नामांकन होना, बच्चों का विद्यालय में पांच वर्षो तक बने रहना ऐसी बाधाएं हैं, जिनके कारण पर्याप्त प्रयास करने पर भी हम लक्ष्य से दूर हैं।

क्षेत्र सघन शिक्षा परियोजना भी इसी प्रकार का एक प्रयास है जिसके द्वारा प्राथमिक शिक्षा के सार्वजनीकरण और सबके लिए शिक्षा के लक्ष्य की प्राप्ति हेतु कारगर उपायों का प्रयोग और परीक्षण किया जा रहा है।

इस प्रकार सरल शब्दों में कहा जा सकता है कि इस परियोजना का सामान्य उद्देश्य प्राथमिक शिक्षा के सार्वजनीकरण के लक्ष्य को प्राप्त करना है। इस मुख्य उद्देश्य में इस परियोजना के विशिष्ट उद्देश्य हैं।

विशिष्ट उद्देश्य

- 0 से 3 आयु वर्ग के शिशुओं के लिए शिशु शिक्षा और देखभाल की व्यवस्था।
- 15 से 40 आयु वर्ग की महिलाओं के लिए शिशु और मातृ स्वास्थ्य रक्षा की जानकारी उपलब्ध कराना, जिससे शिशु मृत्युदर कम की जा सके और शिशुओं के स्वास्थ्य एवं विकास में सुधार लाया जा सके।
- 3 से 6 आयु वर्ग के बच्चों के लिए खेलकूद और

शैक्षिक उद्दीपनों की व्यवस्था करना।

- 14 वर्ष तक के सभी बच्चों, विशेषकर बालिकाओ के लिए प्राथमिक शिक्षा का सार्वजनीकरण।
- विद्यालय न जाने वाले बच्चों तथा 15 से 40 आयु वर्ग के प्रोढ़ों के लिए अनौपचारिक शिक्षा सुविधा उपलब्ध कराना और आवश्यक होने पर सतत् शिक्षा केन्द्रों की स्थापना।
- आवश्यक होने पर नए शैक्षिक कार्यक्रमों, शिक्षण-अधिगम सामग्रियों, शिक्षण विधियो और मूल्यांकन विधि का विकास करना जो समुदाय की विकासात्मक आवश्यकताओं यथा शिशु और माताओं की देखभाल, स्वच्छता, सुरक्षित पेयजल, सामाजिक और पर्यावरणीय चिन्ता से सम्बन्धित हों।
- मानव संसाधन विकास के लिए प्रत्येक स्तर पर शैक्षिक और विकासात्मक क्रियाकलापों को एकत्र करना।
- शिक्षकों और कार्यकर्ताओं का ऐसा संवर्ग तैयार करना जो शिक्षा और समुदाय को निकट ला सके।
- ऐसी सुविधाओं की व्यवस्था करना जिनसे बच्चों और प्रौढ़ों में कार्यानुभव की किसी दक्षता का विकास हो सके।

कार्यनीति

इन उद्देश्यों को प्राप्त करने के लिए अपनायी जाने वाली कार्यनीति की कुछ विशेषताएं निम्नांकित हैं :

- परियोजना के क्रियाकलापों की इकाई पूरा विकास खण्ड करेगा।
- शिक्षा और सामाजिक-आर्थिक विकास मे धनिष्ठ सम्बन्ध स्थापित किया जाएगा।
- सभी शैक्षिक और विकासात्मक क्रियाकलापों का एकत्रीकरण किया जाएगा।
- समुदाय की सहभागिता सुनिश्चित की जाएगी। इसके लिए सूक्ष्म नियोजन की पद्धति अपनायी जाएगी।
- समुदाय को समर्थन और सामुदायिक सहभागिता के लिए चेतना जाग्रत करने के लिए संचार साधनों का प्रयोग किया जाएगा।

प्रमुख क्रियाकलपाप

परियोजना के उद्देश्यों को प्राप्त करने के लिए प्रारम्भ किये जाने वाले मुख्य क्रियाकलाप निम्नवत् होंगे -

- वातावरण निर्माण – समुदाय की परियोजना से, उसके लाभों और महत्व से परिचित कराना।
- ग्राम का सामाजिक, आर्थिक और शैक्षिक सर्वेक्षण।
- समुदाय के सहभाग से गांव के विकास के लिए सूक्ष्म नियोजन तैयार करना, ग्राम योजनाओं के आधार पर विकास खण्ड की योजना का निर्माण।
- समन्वय समितियों का गठन।
- सूक्ष्म नियोजन के अनुसार कार्यक्रम प्रारम्भ करने के लिए संसाधनों की व्यवस्था करना।
- आवश्यक प्रशिक्षण की व्यवस्था करना।
- विभिन्न कार्यक्रमों के लिए विकास अभिकरणों में समन्वय स्थापित करना।

कैसे ? ग्राम स्तर पर परियोजना के कार्यक्रमों के संचालन हेतु ग्राम शिक्षा और विकास केन्द्र की स्थापना की जाएगी। कार्यक्रमों के संचालन हेतु केन्द्र को उपकरण और सामग्रियों की आपूर्ति की जाएगी। समुदाय के कार्यक्रमों को संचालित करने के लिए कार्यकर्ताओं की व्यवस्था स्वैच्छिक कार्यकर्ताओं के रूप में करनी होगी।

विकास खण्ड स्तर पर एक बहुउद्देश्यीय संसाधन केन्द्र बनाया गया है, जो कार्यक्रमों को संचालित करने, प्रशिक्षण आयोजित करने, अभिलेख रखने और अन्य विभागों से सम्पर्क बनाये रखने का कार्य करेगा। शिक्षा के सार्वजनीकरण का कार्यक्रम मुख्य होने के कारण केन्द्र द्वारा बच्चों का नामाकन बढ़ाने, विद्यालय में उनकी नियमित उपस्थिति बनाये रखने, ह्रास-अवरोध कम करने, शिक्षा में गुणात्मक सुधार लाने की दिशा में विशेष प्रयास किया जाएगा। समुदाय और अन्य विभागों को सहभागी बनाने की दिशा में भी विशेष प्रयास किया जाएगा।

अपेक्षित परिणाम

परियोजना के प्रभावी क्रियान्वयन से निम्नलिखित

परिणाम प्राप्त होने की आशा है :

- 3 से 6 आयु वर्ग के बच्चों के लिए शिक्षा सुविधा।
- 6-14 आयु वर्ग के सभी बच्चो का औपचारिक विद्यालय या अनौपचारिक शिक्षा केन्द्रो में नामांकन।
- विद्यालय में बच्चों की उपस्थिति में सुधार।
- ह्रास-अवरोध में कमी।
- 15-40 आयु वर्ग के वयस्कों, विशेपकर महिलाओं में साक्षरता।
- 3-6 आयु वर्ग के बच्चों के लिए स्वास्थ्य सुविधा।
- गांव के नवयुवकों मे नेतृत्व का विकास।
- विकासात्मक कार्यक्रमों में समुदाय, विशेषकर महिलाओं की सहभागिता में वृद्धि।

इस प्रकार विशेष रूप से शिक्षा से सम्बन्धित होते हुए भी इस परियोजना में समुदाय के सामाजिक-आर्थिक विकास के लिए प्रयत्न किया जाएगा, क्योकि वे एक-दूसरे से स्वतंत्र और अलग-अलग नही हैं। वे एक दूसरे को प्रभावित करते हैं।

इस परियोजना की मुख्य विशेषता समुदाय के लिए समुदाय के सहयोग से कार्यक्रमों को बनाना और उन्हें कार्यान्वित करना है।

परियोजना की सफलता इस बात पर निर्भर करती है कि समुदाय परियोजना के कार्यक्रमों में कितनी रुचि लेता है और सहयोग करता है। परियोजना की सफलता शासन के विभिन्न विभागों के आपसी तालमेल और समन्वयन पर भी निर्भर करती है।

प्राथमिक शिक्षा का सार्वजनीकरण

आपने प्रायः प्राथमिक शिक्षा के सार्वजनीकरण और सबके लिए शिक्षा की बात पढ़ी-सुनी होगी। हो सकता है कि आपके मन में यह बात उठती हो कि प्राथमिक शिक्षा के सार्वजनीकरण का अभिप्राय आखिर क्या है ?

- विद्यालय जाने वाली उम्र अर्थात् पांच वर्ष से अधिक से ग्यारह वर्ष तक के सभी बच्चों को विद्यालय में नामांकन होना।
- बच्चों का पांच वर्षो तक विद्यालय में बने रहना, और
- पांच वर्ष की निर्धारित सीमा में प्राथमिक स्तर की शिक्षा पूरी कर लेना।

विद्यालय जाने वाली उम्र के बच्चों में भी कुछ बच्चे ऐसे होते हैं, जो अनेक कारणों से शिक्षा प्राप्त करने मे असमर्थ रह जाते है। इसलिए यदि 95 प्रतिशत बच्चे विद्यालयों में नामांकित हो जाएँ तो यह मान लिया जाता है कि प्राथमिक शिक्षा के सार्वजनीकरण का लक्ष्य प्राप्त कर लिया जाता है।

किन्तु यह स्थिति भी भ्रामक हो सकती है। हो सकता है कि गांव में विद्यालय जाने वाली उम्र के बच्चों की संख्या और विद्यालय में कक्षा एक से पांच तक के बच्चों की संख्या बराबर हो, यह भी हो सकता है कि विद्यालय में पढने वाले बच्चों की संख्या कुल बच्चों की सख्या से अधिक हो।

विद्यालय मे पढने वाले बच्चों की संख्या विद्यालय जाने वाली उम्र के कुल बच्चों की संख्या से अधिक हो सकती है क्योंकि :

- सम्भवतः विद्यालय जाने वाली उम्र से कम या अधिक उम्र के बच्चे विद्यालय मे पढ रहे हों।
- पड़ोस के गांवों के बच्चे जिनको दूसरे विद्यालय में नामांकित होना था किसी सुविधा के कारण उसी विद्यालय में पढ़ रहे हों।
- इसीलिए विद्यालयों में नामांकित बच्चो की कुल संख्या और विद्यालयी वय के नामांकित बच्चों की शुद्ध संख्या में अन्तर पाया जाता है।

हमारा प्रयास होना चाहिए कि विद्यालय जाने वाली उम्र का कोई बच्चा विद्यालय से बाहर न रहे। बालिकाओं और समुदाय के कमज़ोर वर्ग के बच्चों का नामांकन न होना सार्वजनीकरण के मार्ग में एक बहुत बड़ी बाधा है। क्या बच्चों का विद्यालयों में नामांकित हो जाना सार्वजनीकरण के लक्ष्य की प्राप्ति के लिए पर्याप्त है ? नहीं, केवल विद्यालय में नामांकित हो जाना पर्याप्त नहीं है। यह भी आवश्यक है कि बच्चें पांच वर्षो तक विद्यालय में बने रहे।

एक अध्ययन से ज्ञात हुआ है कि कक्षा एक में प्रवेश लेने वाले सौ बच्चों में से पांच वर्ष बाद केवल 38 बच्चे ही कक्षा पांच पास कर पाते हैं।

शेष 62 बच्चों ने या तो पढ़ना ही छोड दिया या वे अभी तक कक्षा पांच तक पहुचे ही नहीं।

सोचिए ! यह हमारे सीमित संसाधनों का कैसा

दुरुपयोग है। ऐसा होता क्यों है ?

- अगर बच्चे नियमित रूप से विद्यालय नही आते तो वे पढ़ाई में पिछड़ जाते हैं। कक्षा में उत्तीर्ण न होने पर बहुत से बच्चे पढ़ाई छोड देते हैं।
- यदि माता-पिता बच्चे की पढाई-लिखाई पर ध्यान नही देते तो बच्चे भी अपनी पढाई-लिखाई पर ध्यान नहीं देते और वे विद्यालय छोड़ देते हैं।
- कभी-कभी माता-पिता ही तुरन्त दिखाई पडने वाले मामूली लाभ/सुविधा के लिए बच्चों का विद्यालय जाना बन्द कर देते हैं, खासकर बालिकाओं की पढ़ाई तो मामूली सुविधाओं के लिए बन्द कर दी जाती है।

प्राथमिक शिक्षा के सार्वजनीकरण के लिए यह आवश्यक होगा कि प्रवेश देने के बाद सभी बच्चे कम से कम अपनी प्राथमिक शिक्षा पूरी करें।

शायद आप अनुभव कर रहे होगे कि प्राथमिक शिक्षा पूरी कर लेना मात्र पर्याप्त नहीं है। यदि शिक्षा को व्यक्ति, परिवार, समाज और राष्ट्र के विकास में प्रभावपूर्ण योगदान करता है तो शिक्षा का स्तर भी अच्छा होना चाहिए। ऐसा भी होना चाहिए कि सभी बच्चो में आवश्यक न्यूनतम योग्यता, कौशल आदि विकसित हो जाए।

इस प्रकार प्राथमिक शिक्षा के सार्वजनीकरण के लिए आवश्यक है कि :

- विद्यालयी वय के सभी बच्चों का नामांकन हो जाए।
- बच्चे नियमित रूप से विद्यालय आएं।
- बच्चें पांच वर्षो तक विद्यालय में बने रहें।
- सभी बच्चे कम से कम निर्धारित योग्यता प्राप्त करें।

सबके लिए शिक्षा

अब केवल प्राथमिक शिक्षा के सार्वजनीकरण की बात से काम नहीं चलेगा क्योंकि बच्चों की शिक्षा का कार्यक्रम भी माता-पिता अर्थात्,समुदाय की शिक्षा के स्तर से प्रभावित होता है। यदि माता-पिता शिक्षित हैं, तो वे अपने बच्चों की शिक्षा में भी रुचि लेगे। आज के इस वैज्ञानिक और तकनीकी प्रगति के युग में व्यक्तिगत और राष्ट्र के विकास का प्रश्न देश के नागरिकों की शिक्षा और उनकी दक्षता से जुड़ा हुआ है।

जीवन स्तर को बेहतर बनाने, स्वस्थ और सामर्थ्यवान और राष्ट्र के निर्माण मे प्रभावी भूमिका के निर्वाह करने, अपने अधिकारो और कर्तव्यों के विवेकपूर्ण प्रयोग करने, शोषणमुक्त, सम्मानजनक जीवनयापन करने, और आधुनिक विज्ञान और तकनीकी की उपलब्धियों का लाभ उठाने के लिए देश के समस्त नागरिको का शिक्षित होना आवश्यक है। इसलिए –

- शिक्षा को सभी लोगो – सभी वय वर्गो के पुरुषों व महिलाओं का मौलिक अधिकार माना गया है।
- शिक्षा को आज के उत्तर प्रदेश और भारत के लिए सर्वोत्तम निवेश माना गया है।

शिक्षा के इस महत्व को देखते हुए ही दुनिया की 155 सरकारो के प्रतिनिधियों ने 'सबके लिए शिक्षा' की व्यवस्था करने का संकल्प लिया है। जिससे –

- विश्व के प्रत्येक नागरिक को शिक्षा प्राप्ति की सुविधा मिल सके।
- विभिन्न वय वर्ग के लोगों की मूलभूत शैक्षिक आवश्यकताओं की पूर्ति हो सके।
- विश्व में शिक्षा के लिए अनुकूल परिस्थितियां पैदा हो क्योंकि शिक्षा के लिए अच्छे पोषण, स्वास्थ्य सेवाओं, भौतिक और भावात्मक सहायता की आवश्यकता होगी और यह कार्य - सरल नहीं है, विशेषकर उन देशों के लिए जो अविकसित या विकासशील हैं। पूरे विश्व को इस कार्य में हाथ बंटाना होगा।

अपने देश भारत में भी सबके लिए शिक्षा का संकल्प लिया गया है। सभी बच्चों, युवकों, वयस्कों के लिए शिक्षा प्राप्त करने की व्यवस्था करने का सकल्प लिया गया है। इसके लिए हमे करना है –

- निर्धारित आयु सीमा के सभी बच्चों का नामांकन।
- बच्चो और शिक्षकों की नियमित उपस्थिति।
- ह्रास-अवरोध का निवारण।
- विद्यालय में पांच वर्ष ठहराव।
- विद्यालय न जा सकने वाले बच्चों, युवकों, वयस्कों, महिलाओं के लिए शिक्षा की वैकल्पिक व्यवस्था।
- शिक्षा में गुणात्मक विकास।
- बालिकाओं और महिलाओं की शिक्षा पर बल।
- समुदाय के दुर्बल वर्ग के बच्चों को विद्यालय ले आने

का प्रयास।

- विद्यालय की आवश्यकताओं को पूरा करने का प्रयास।
- बच्चे अपनी पढाई जारी रख सकें इसके लिए उनके स्वास्थ्य, पोषण और अन्य सुविधाओं की व्यवस्था।
- पूरे समुदाय में शिक्षा के प्रति अनुकूल वातावरण बनाने के लिए समुदाय के सभी लोगों को शिक्षा प्राप्त करने के लिए प्रेरित करना।

इसके लिए आज हम सबको दृढ़ संकल्प लेना होगा। यदि हम, आप सभी इसके लिए सजग हो जाएं तो 'सबके लिए शिक्षा' का संकल्प पूरा करना कठिन न होगा।

लड़कियों की शिक्षा ज़रूरी क्यों

लड़कियों की शिक्षा पर भी उतना ध्यान दिया जाना चाहिए जितना लडकों की शिक्षा पर। क्यों ?

यदि प्राथमिक शिक्षा के सार्वजनीकरण के लक्ष्य को प्राप्त करना है तो लडकियो को शिक्षा के कार्यक्रमों में भाग लेना होगा। क्योंकि -

- अभी भी स्त्रियों और पुरुषों की साक्षरता में बहुत अन्तर है। अपने राज्य में पुरुषों की साक्षरता यदि 55.35 प्रतिशत है तो महिलाओं की साक्षरता केवल 26.02 प्रतिशत है।
- स्कूलों में पढ़ रहे बच्चों को देखें तो 100 बच्चों में 60 बालक हैं उनकी तुलना में बालिकाएं केवल 40 ही हैं। अगर छः से ग्यारह साल की उम्र में सभी बच्चो की शिक्षा का लक्ष्य पाना है तो बालिकाओं की शिक्षा पर भी ध्यान देना होगा।

लडकियों की शिक्षा देश की आर्थिक समृद्धि पर प्रभाव डालती है क्योंकि —

- पढ़ी-लिखी लड़कियों को रोज़गार के अधिक अवसर प्राप्त होते हैं। वे भी ऊंचे पद प्राप्त करके परिवार का मान बढ़ा सकती हैं।
- नौकरी न भी करें तो वे अपने घरेलू काम-काज को और अच्छी तरह कर सकती हैं।
- पढ़ी-लिखी महिलाएं घर के प्रबन्ध, बच्चों की देखभाल और घरेलू उपयोग की चीज़ों के उत्पादन द्वारा परिवार की आर्थिक समृद्धि में योगदान कर सकती हैं। पढ़ी-लिखी महिलाओं के परिवार ज़्यादा स्वस्थ होते हैं।
- पढ़ी-लिखी महिलाएं अपने परिवार को स्वास्थ्यप्रद परिस्थितियां और पोषक आहार दे सकती हैं।
- बच्चों में स्वस्थ आदतों का विकास कर सकती हैं।
- बाल मृत्यु दर एवं मातृ मृत्यु दर रोकने मे सहायक होती है।
- पढी-लिखी महिलाएं टीकाकरण पर विश्वास करती हैं और समय से पूर्ण टीकाकरण पर ध्यान देकर बच्चो को छः जानलेवा बीमारियों से बचाती हैं।
- पढी-लिखी महिलाएं आस-पास की स्वच्छता और सुरक्षित पेय जल की व्यवस्था पर अधिक ध्यान देती हैं।

पढी-लिखी महिलाएं जनसंख्या को नियंत्रित करने में सहायक होती हैं क्योंकि —

- पढ़ी-लिखी लड़कियों का सामान्यतः देर में विवाह होता है।
- पढ़ी-लिखी महिलाएं परिवार नियोजन करती हैं।
- पढ़ी-लिखी महिलाओं के परिवार समान्यतः छोटे होते हैं।
- पढ़ी-लिखी महिलाएं जानती हैं कि परिवार छोटा रहने पर बच्चो की देखभाल अच्छी तरह से की जा सकती है।

पढ़ी-लिखी महिलाएं भावी पीढी के विकास में सहायक होती हैं क्योकि —

- पढ़ी-लिखी माताएं अपने बच्चों के स्वास्थ्य, पोषण और शिक्षा पर अधिक ध्यान देती हैं।
- पढी-लिखी माताएं भावी पीढ़ी में अच्छे संस्कार डालकर देश के लिए उत्तरदायी नागरिकों का निर्माण करती हैं।
- पढ़ी-लिखी माताएं बच्चों के विकास की आवश्यकताएं जानती हैं और उन्हें पूरा करने की कोशिश करती हैं।

शिक्षा महिलाओं को सामर्थ्य देती है क्योंकि —

- पढ़ी-लिखी महिलाएं ज़्यादा धन कमा सकती है। इससे समाज में उनका मान सम्मान बढ़ता है।

- पढ़ी-लिखी महिलाए पारिवारिक और सामाजिक मामलों में निर्णय ले सकती हैं।
- पढी-लिखी महिलाएं अपने अधिकारो को जानती हैं। कोई उनका शोषण नही कर सकता।

पढी-लिखी महिलाएं विकास प्रयासों को स्थिरता प्रदान करती हैं क्योंकि –

- पढ़ी-लिखी महिलाएं नए विचारों को समझती हैं।
- पढ़ी-लिखी महिलाओ में विकास कार्यक्रमों के प्रति अधिक जागरूकता होती है।

बिना शिक्षा के विकास प्रयास लम्बे समय तक नहीं चल सकते। विकास प्रयास बने रहें, इसके लिए बालिकाओं की शिक्षा जरूरी है क्योंकि –

- पढी-लिखी महिलाएं अन्धविश्वासो पर विश्वास नही करती हैं।
- प्रजातन्त्र की सफलता के लिए महिलाओं की शिक्षा आवश्यक है। देश की लगभग आधी जनसंख्या का निरक्षर रहना गाडी के दो पहियों में से एक का कमजोर रहने जैसा है।

अभी भी अवसर है। आइए संकल्प करें कि अगले सत्र से परिवार और गांव की छः वर्ष की आयु की सभी बालिकाएं पढ़ने जाने लगेंगी, रोज स्कूल जाएंगी और कम से कम प्राइमरी शिक्षा प्राप्त करने तक स्कूल में बनी रहेंगी।

ग्राम प्रधानों की भूमिका

ग्राम प्रधान का पद एक महत्वपूर्ण पद है। गांव के लोगों ने आपमें विश्वास प्रकट कर गाव के कल्याण का नेतृत्व आपको सौंपा है। ग्रामवासियों के इस विश्वास की रक्षा करना आपका नैतिक कर्तव्य है।

क्या आप जानते हैं

अपने राज्य उत्तर प्रदेश में साक्षरता केवल 41.71 प्रतिशत है। पुरुषों में साक्षरता 55.35 प्रतिशत और महिलाओं में केवल 36.02 प्रतिशत।

अपने जनपद मिर्ज़ापुर में साक्षरता केवल 31 प्रतिशत है। पुरुषों मे 43.2 प्रतिशत और महिलाओं में केवल 17.5 प्रतिशत।

विद्यालय में प्रवेश लेने वाले 100 बच्चो में से केवल 38 बच्चे ही कक्षा पाच पास कर पाते हैं।

यदि आप अपने गांव के आंकडे देखे तो लगभग यही स्थिति दिखायी पडेगी।

ग्राम प्रधान होने के नाते आप ग्राम शिक्षा समिति और क्षेत्र सघन शिक्षा परियोजना के अन्तर्गत स्थापित ग्राम समन्वय समिति के अध्यक्ष हैं। निश्चित रूप से आप अपने गांव की इस शैक्षिक स्थिति से सन्तुष्ट न होंगे। इस दिशा में प्रगति के लिए आप बहुत कुछ कर सकते हैं। जैसे –

- शिक्षा विभाग के अधिकारियो से सम्पर्क करके यदि गांव के निकट प्राथमिक विद्यालय नही है तो नया विद्यालय खोलने का अनुरोध कर सकते है।
- यदि वह सम्भव नहीं तो आप गांव में अनौपचारिक शिक्षा केन्द्र खुलवाने के लिए प्रयास कर सकते हैं।
- समुदाय के सदस्यों को प्रेरित करके अपने ससाधनो से गाव मे प्राथमिक विद्यालय खोलने पर विचार कर सकते हैं।
- गांव में यदि कोई शिक्षित व्यक्ति हो और वह गांव के बच्चों के लिए कुछ समय दे सके तो छोटे बच्चों की शिक्षा की व्यवस्था उसके माध्यम से करा सकते हैं।
- ग्राम शिक्षा समिति, ग्राम समन्वय समिति को क्रियाशील बना सकते हैं।
- इन समितियों की बैठकें आयोजित करके सभी बच्चों को विद्यालय लाने के उपायो पर विचार कर सकते हैं।
- आप ग्राम समिति और समन्वय समिति के सदस्यों, गांव में रहने वाले अध्यापको, अन्य उत्साही लोगों को गाव के विभिन्न भागों में घूम-घूम कर विद्यालय न जाने वाले बच्चो का पता लगा कर उन्हें विद्यालय लाने के लिए प्रेरित कर सकते हैं।
- गांव में जगह-जगह बैठकें करके अभिभावको को अपने परिवार के सदस्यों को साक्षर बनाने के लिए प्रेरित कर सकते हैं।
- शिक्षा के प्रति समुदाय में जागरूकता विकसित करने के लिए समन्वय समिति के सदस्यो, अध्यापकों और गांव के अन्य उत्साही व्यक्तियों को साथ लेकर प्रभात

फेरी/ज्ञान यात्रा आयोजित करके समुदाय के सदस्यों को साक्षरता हेतु प्रेरित कर सकते है। बच्चों के नामांकन, नियमित उपस्थित ठहराव की ओर उनका ध्यान आकर्षित कर सकते हैं। गांव के सभी निरक्षर लोगों को साक्षर बनने के लिए उत्साहित कर सकते हैं।

- आप समुदाय के साधन सम्पन्न वर्ग की सहायता से दुर्बल वर्ग के बच्चों के लिए लिखने-पढ़ने की सामग्री, पाठ्य-पुस्तकों की व्यवस्था करा सकते हैं। विद्यालय में बुक बैंक स्थापित करा सकते हैं।

नियमित उपस्थिति और ठहराव के लिए –

- बैठकों के माध्यम से इन समस्याओं के बारे में गांव वालों का ध्यान आकृष्ट कर सकते हैं।
- विद्यालय के प्रधानाध्यापक से ऐसे बच्चों की सूची देने को कह सकते हैं, जो नियमित रूप से विद्यालय नहीं आते।
- आप आते-जाते, खेत-खलिहानों में ऐसे बच्चों के अभिभावकों के मिलने पर उन्हें बच्चों को विद्यालय भेजने के लिए टोक सकते हैं।
- विद्यालय को आकर्षक बनाने के लिए प्रधानाध्यापक को सुझाव और सहायता दे सकते हैं।
- आप अध्यापकों से बात कर सकते हैं कि शिक्षण को रोचक कैसे बनाया जा सकता है।
- विचार कर सकते हैं कि विद्यालय में ऐसे कौन-कौन से कार्यक्रम आरंभ किए जा सकते हैं जिनसे विद्यालय आने के लिए बच्चे लालायित रहें।
- विद्यालय जा कर देख सकते है कि क्या पर्याप्त लिखित कार्य कराया जा रहा है।
- देख सकते हैं कि ऑपरेशन ब्लैक बोर्ड के अन्तर्गत दी गई सामग्रियों का उचित प्रयोग किया जा रहा है या नहीं।
- गांव के प्रतिभावान कलाकारों, कारीगरो को प्रेरित कर सकते हैं कि वे कुछ समय निकाल कर बच्चों को अपनी कला दिखाये/सिखायें।
- गांव के कार्यक्रमों में बच्चों को यह दिखाने का अवसर दे सकते हैं कि उन्होंने क्या सीखा है।
- दुर्बल वर्ग के और ज़रूरतमंद बच्चों के लिए पठन-पाठन सामग्री उपलब्ध कराने की योजना बना सकते हैं।
- विद्यालयों को भी अपना दायित्व निभाने के लिए सुविधायें चाहिए, आप ग्राम सभा के संसाधनों से विद्यालय भवन निर्माण, मरम्मत, चारदीवारी निर्माण, शौचालय, मूत्रालय की व्यवस्था कर सकते हैं। विद्यालय के नन्हे-मुन्नों की प्यास बुझाने के लिए हैण्ड पम्प लगवा सकते हैं। विद्यालय की अन्य भौतिक आवश्यकताओ की व्यवस्था करा सकते हैं।

आप समर्थ हैं। विद्यालय आपका है। इसमें आपके बच्चे शिक्षा प्राप्त करते है। गांव के सभी बच्चे अच्छी शिक्षा प्राप्त करें - यह सोचना और उसके लिए प्रयास करना है क्योंकि –

- बच्चे हमारे हैं उन्हें शिक्षा मिलनी चाहिए।
- यह विद्यालय हमारा है और हम विद्यालय की हर सभव सहायता करेंगे।
- बालिकाओं को विद्यालय न भेजना शर्म की बात है।
- आओ हम सब साथ पढें, सीखने की कोई उम्र नहीं होती। ❑❑

सौजन्य : राज्य शिक्षा संस्थान
इलाहाबाद, उत्तर प्रदेश

प्रारंभिक शिक्षा के साथ ही पर्यावरण रक्षा के ज्ञान की आवश्यकता

❑ श्री कान्त मिश्र

ज्ञान की प्राप्ति या शिक्षा ग्रहण करने के लिए स्वच्छ अर्थात् शान्त पर्यावरण की आवश्यकता को प्राचीन काल से सही अनुभव किया गया था। तभी हमारे यहां गुरुकुल प्रकृति के सुरम्य शान्त वातावरण में अर्थात् फल, फूलों, वृक्षों से आवृत्त, झरनों एवं नदियों के तटों पर स्थित होते थे, क्योंकि यहीं पर व्यक्ति का शारीरिक, मानसिक, आध्यात्मिक, नैतिक विकास सम्भव है। यहां की जीवन पद्धति प्रारभ से ही स्वस्थ परम्पराओं, सामाजिक व सांस्कृतिक मूल्यों के प्रति जागरूक रही है। बांटकर खाना, दूसरों को पहले खिलाना भारतीय संस्कृति ही है लेकिन अब पश्चिमी उपभोक्तावाद का प्रभाव भारत में भी पड़ चुका है। पहले धनी लोग 'सर्वे भवन्तु सुखिनः सर्वे सन्तु निरामयाः' की भावना से कुओं, तालाबों, व्यायामशालाओं, पाठशालाओं, आश्रमों का निर्माण करते-कराते थे। आज का समृद्ध वर्ग घरों में भोग विलास के समान खचाखच भरकर अपना स्तर बढ़ाने मे तल्लीन है। यही अपसंस्कृति पर्यावरण के बढ़ते हुए क्षय के लिए उत्तरदायी है। जरूरत से ज़्यादा संचय तथा अतिशय खपत आज की जीवन शैली विशेषकर वर्तमान पीढ़ी के संस्कार का अविभाज्य अंग बन चुकी है। प्रकृति का अंधाधुंध अतिशय दोहन, शोषण तथा पर्यावरण के सभी घटकों का, विनाश की सीमा तक दूषण अब विकास के विकृत अर्थ का प्रतिफल हो गया। तनिक इस वास्तविकता को भी सोचें कि पृथ्वी पर अब बचे हुए प्राकृतिक संसाधन दुनिया की मात्र तीस प्रतिशत जनसंख्या के लिए ही पर्याप्त हैं। शेष सत्तर प्रतिशत जनसंख्या की आवश्यकताएं कहां जाएंगी ?

उपभोक्तावाद की आंधी से बचने का एक निश्चित रास्ता है – सादगी की जीवन शैली, मितव्ययिता (अधिक खर्च न करना), सहउपभोक्तावाद (मिल बांटकर खाना) और अपरिग्रह। अगर आज की पीढी यह समझती है कि गांधीजी द्वारा बताया गया उपरोक्त रास्ता पुराना है या अव्यावहारिक है, अथवा दकियानूसी है तो निश्चित रूप से बचने का दूसरा रास्ता भी नहीं है। गांधी जी की विचारधारा कि पृथ्वी पर हर मनुष्य की जरूरतों के लिए सब कुछ है लेकिन लालच के वास्ते कुछ भी नहीं, वांछित उपभोक्तावाद की नींव बन सकती है। यह जान लेना यहां पर आवश्यक है कि पर्यावरण जड नहीं चेतन है और मनुष्य भी उसका एक हिस्सा है, सहभोगी है तथा दोनों में पारस्परिक निर्भरता है। उपभोक्ता संरक्षण तथा पर्यावरण संरक्षण मे अनुपूरकता है अर्थात् पर्यावरण को स्वच्छ रखना और उपभोक्ता बाजार को स्वच्छ रखना एक ही सिक्के के दो पहलू हैं। पर्यावरणीय समस्याओं को दृष्टिगत रखते हुए विभिन्न मंचों पर इसकी चर्चा को प्रमुखता दी जा रही है। इस दिशा में राष्ट्रीय एवं अन्तर्राष्ट्रीय स्तर पर चिन्ता व्यक्त करते हुए अग्रलिखित प्रयास किए जा रहे है।

अन्तर्राष्ट्रीय प्रयास

पर्यावरण की रक्षा का सर्वप्रथम अन्तर्राष्ट्रीय प्रयास 5 जून 1972 को संयुक्त राष्ट्र द्वारा आयोजित मानव पर्यावरण सम्मेलन, स्टाकहोम में हुआ जिसके मुख्य बिन्दु थे-

- ❑ पर्यावरणीय नियोजन और मानव।
- ❑ प्राकृतिक साधनों का प्रबंधन।
- ❑ पर्यावरण का शैक्षिक/सूचनागत महत्व।
- ❑ मानव विकास व पर्यावरण।

- ❑ पर्यावरणीय संतुलन में अंतर्राष्ट्रीय सहभागिता।

इस सम्मेलन की सिफारिशों पर प्रत्यक्ष कार्वाहियों के अभाव के कारण सयुक्त राष्ट्र ने 1.8 1983 को पर्यावरण पर एक स्वतंत्र आयोग की स्थापना की। इस आयोग की रिपोर्ट 1987 में प्रकाशित होकर सामने आई जिस पर सामान्य सभा में 22 12.1989 को विचार विमर्श हुआ। 1987 में पर्यावरणीय सन्तुलन पर एक महत्वपूर्ण बैठक लन्दन में हुई इसमें 24 देशों ने भाग लिया। इसी वर्ष यूरोपीय देशों द्वारा एक नया चार यजी प्रोटोकाल पर्यावरण संरक्षण के उपायों पर हस्ताक्षर किए गए। इन सभी की परिणति 6 जून 1992 को रियो डी जनेरो के पृथ्वी सम्मेलन में हुई। इसमें 117 देश तथा 2000 से ज़्यादा गैर सरकारी संगठनो ने हिस्सा लिया। आठ सौ पृष्ठों का एक दस्तावेज तैयार किया गया। इसमें पर्यावरण के निम्न विन्दुओं पर विस्तार से योजनाएं सुझाई गई –

- ❑ पर्यावरण का आर्थिक व सामाजिक पहलू।
- ❑ प्राकृतिक साधनों का संरक्षण।
- ❑ पर्यावरण संरक्षण में व्यक्तिगत दायित्व।
- ❑ पर्यावरण सरक्षण के कार्यक्रमों का कार्यान्वियन।

5 जून 1972 से 6 जून 1992 तक बीस वर्षो की इस अन्तर्राष्ट्रीय लगन ने लगभग विश्व के प्रत्येक देश को प्रदूषण रहित पर्यावरण के प्रति सोचने को विवश कर दिया है।

राष्ट्रीय प्रयास

भारत में पर्यावरण विभाग की स्थापना 1980 में उस समिति की अनुशंसा पर हुई जिसके अध्यक्ष श्री नारायण दत्त तिवारी थे। 1985 में यह विभाग पूर्ण रूप से मंत्रालय के रूप में व्यवस्थित हुआ। 1986 में पर्यावरण संरक्षण से संबंधित अधिनियम लागू किया गया। इसके अन्तर्गत पर्यावरण और वन मत्रालय को पर्यावरणीय मानकों का उल्लंधन करने वाली औद्योगिक इकाइयों को बंद करने के आदेश जारी करने का अधिकार दिया गया, लेकिन खतरनाक अपशिष्टों और ध्वनि प्रदूषण को इस अधिनियम में सम्मिलित नहीं किया गया था। सन् 1989 मे खतरनाक अपशिष्टों के विन्यास और व्यवस्था को सम्मिलित किया

इसके उपरान्त मार्च 1992 में पर्यावरण लेख परीक्षण संबंधित नीतियां लागू की गई। इनके अनुसार मार्च के अन्त तक प्रत्येक औद्योगिक इकाई को कच्चे माल, जल ऊर्जा के उपयोग और जनित प्रदूषण से सबंधित वार्षिक रपट राज्य के प्रदूषण नियंत्रण समिति को (विगत वर्षो के आंकडों से वर्तमान आकडों की तुलना करते हुए) देनी पडती है। इतना सब कुछ होते हुए भी इन अधिनियमों में कुछ खामियां रह गई जिनका लाभ उठाते हुए इन नियमो का जान-बूझकर उल्लंघन करने से लोग नहीं चूकते और समस्याएं घटने के स्थान पर बढ़ती ही जाती हैं।

पर्यावरण के संरक्षण हेतु प्रदूषण नियंत्रण कानून से अधिक आवश्यकता वैचारिक क्रान्ति की है। जनसंचार माध्यम भी सामयिक संदेश ही प्रदान कर सकते हैं जबकि मनुष्य के अन्दर पर्यावरण के संरक्षण हेतु भावनात्मक जागरूकता उत्पन्न करके इस समस्या का स्थिर हल जाना जा सकता है। इसके लिए पर्यावरण संबंधी शिक्षा को प्राथमिक स्तर से ही प्रभावशाली ढग से लागू करना चाहिए। यदि हम प्राथमिक स्तर पर इस अभियान में सफल हो गए तो अगिम स्तरों पर लक्ष्यों की प्राप्ति स्वतः हो जाएगी। इस सन्दर्भ में प्राथमिक अध्यापकों और प्राथमिक छात्रों के लिए (क्रमशः) निम्नलिखित प्रयास लक्ष्य प्राप्ति में सहायक सिद्ध हो सकते हैं-

अध्यापकों के लिए वांछित प्रयास

प्राइमरी अध्यापकों के सेवाकालीन प्रशिक्षण के अंतर्गत निम्न बिन्दुओं पर विशेष ध्यान देना चाहिए –

- ❑ वर्तमान एवं भावी पर्यावरणीय प्रवृत्ति पर रिपोर्टो एवं सांख्यिकीय सरंचनाओं से अवगत कराना।
- ❑ पर्यावरण से संबधित मानदंडो के आधार पर विविध क्षेत्रों के वर्गीकरण की जानकारी देना।
- ❑ अध्यापकों को औद्योगिक तथा अन्य परियोजनाओं के पर्यावरणीय प्रभाव, मूल्यांकन संबंधी तथ्यों की सूचना उपलब्ध कराना।
- ❑ समय-समय पर जारी पर्यावरण संरक्षण संबंधी अधिनियमों (हानिकारक पदार्थो संबंधी नियमों सहित) से उनको अवगत् कराना।
- ❑ स्वच्छ प्रौद्योगिकी संसाधन-सरंक्षण, अपशिष्ट उपयोग

पर उपलब्ध सूचना और आधार सामग्री अध्यापकों को प्रदान करना।

- ❑ उपरोक्त बिन्दुओं के आधार पर अध्यापक को विविध स्तरों पर (औपचारिक तथा अनौपचारिक दोनों) प्रशिक्षित करना तथा जनचेतना की क्रियाएं संचालित करना।

छात्रों के लिए वांछित प्रयास

छात्रों को मिट्टी, जल (सतही व भूमिगत दोनों), वायु, ध्वनि आदि पर्यावरणीय घटकों की गुणवत्ता संबंधी जानकारी प्रदान की जाए —

- ❑ उन्हें विविध स्रोतों से निष्कासित पर्यावरण प्रदूषकों के मानको का ज्ञान कराया जाए।
- ❑ छात्र प्रदूषण करने वाली क्रियाओं को पहचानें, उन पर प्रतिबंध लगाने के लाभ तथा आवश्यक सुरक्षात्मक उपायों से अवगत हों, ऐसी व्यवस्था की जाए।
- ❑ गंगा कार्य योजना, राष्ट्रीय नदी कार्य योजना और राष्ट्रीय झील कार्य योजना, ओजोन पर्तनाशक वस्तुओ की रोकथाम की भलीभांति जानकारी दी जाए।

इन सुझावों पर अमल, हमारे स्वच्छ पर्यावरण के संरक्षण में सहायक सिद्ध हो सकता है। पर्यावरण की उपेक्षा करके हमारा "जीवेम् शारदा शतम्" का लक्ष्य सफल नहीं हो सकेगा। अशोक के शिलालेखों में भी यही स्पष्ट उल्लेख है -

... पश्य देवस्य काव्यम्, न मारते न जीर्यते

अर्थात् पर्यावरण के सभी घटक मिलकर ही हमारे जीवन को स्वस्थ व स्वर्गोपम बनाते हैं। यह देव काव्य हैं, जो सर्वोपरि हैं। इन्हें मारकर हम अमर नहीं रह सकते, इन्हें जीर्ण कर हम अजर नहीं रह सकते। ❑❑

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फर्रुखाबाद, उ. प्र.

दक्षता अधिगम : अवधारणा एवं शिक्षण के सोपान

❑ **अमरनाथ दत्त गिरि**

छात्रों की शैक्षिक उपलब्धि के गिरते स्तर पर सर्वत्र चिन्ता की जा रही है जिसे ठीक करने अथवा वांछित सुधार हेतु अनेक प्रयास किए जाते रहे हैं। विभिन्न शिक्षा आयोगों की संस्तुतियां इसकी साक्षी हैं। संभवतः आयोगों के प्रतिवेदन कुछ समय के लिए राहत तो देते हैं किन्तु शैक्षिक स्तर को गिरने से रोक नहीं पाए, इसमें कोई सन्देह नहीं है। शिक्षा के सम्बन्ध में सुधार एवं बालकों के अधिगम स्तर को ऊंचा उठाने के लिए दक्षता अधिगम के संप्रत्यय का प्रतिपादन शिक्षा जगत में आशा की किरण के रूप मे प्रकट हुआ।

दक्षता अधिगम की मूलभूत अवधारणा यह है कि प्रत्येक छात्र कक्षा में पढ़ाई जाने वाली विषय-वस्तु में दक्षता या प्रवीणता प्राप्त कर सकता है। अब प्रश्न यह उठता है कि अधिगम में 'दक्षता' से हमारा क्या तात्पर्य है ? 'दक्षता' को हम मॉरिशन के शब्दों मे इस प्रकार परिभाषित कर सकते है — "दक्षता का तात्पर्य है कि अधिगमकर्ता (लर्नर), अधिगम उत्पादन (लर्निंग प्रॉडक्ट) को वास्तव में अर्जित करें।" इस प्रकार दक्षता के अन्तर्गत दो बातें स्वय ही अन्तर्निहित हैं — प्रथम, अधिगम के लक्ष्य या उत्पादन को प्राप्त करना और द्वितीय, अधिगम के पश्चात् कार्य या

व्यवहार को इस स्तर पर किया जाए कि उससे यह स्वय झलकने लगे कि अधिगमकर्ता ने अधिगम के उद्देश्यों को भली-भांति प्राप्त कर लिया है।

उपर्युक्त परिभाषा से यह स्पष्ट है कि दक्षता अधिगम के संप्रत्यय में या तो छात्र वांछित अधिगम लक्ष्य प्राप्त कर दक्ष हो जाएगा या लक्ष्य को प्राप्त करने मे अनुत्तीर्ण हो जाएगा। मॉरिशन के अनुसार दक्षता के अर्जन में कोई आंशिकता (डिग्री) नहीं होती या तो व्यक्ति अधिगम में दक्ष होगा या अनुत्तीर्ण। बीच की कोई स्थिति नहीं है। मॉरिशन के शब्दो में "उपलब्धि (दक्षता) मे आंशिकता की बात करना असंगत है। यह इसी प्रकार है जेसे कोई यह कहे कि कोई व्यक्ति किसी भवन की दूसरी मंज़िल पर कितने अंश तक पहुंच गया है। यदि वह व्यक्ति एक या दो फुट भी नीचे है तो भी उसे हम दूसरी मजिल पर नही कर सकते। दूसरी मंजिल पर अशतः पहुंचने की बात करना निरर्थक है।"

दक्षता अधिगम एक ऐसा संप्रत्यय है जो शिक्षण प्रक्रियिा के अधिक निकट है। इसकी यह मान्यता है कि छात्रों को शिक्षण द्वारा ऐसी सहायता दी जा सकती है कि 90 से 95 प्रतिशत अधिगमकर्ता (छात्र) पढ़ाई जाने वाली विषय-वस्तु को 90 से 95 प्रतिशत तक अर्जित कर सकते हैं। शिक्षको का यह सोचना गलत है कि मानसिक योग्यताओं के समान ही शैक्षिक उपलब्धि भी सामान्य वितरण वक्र (नार्मल डिस्ट्रीब्यूशन कर्व) के नियमों का अनुसरण करती है। कहने का तात्पर्य यह है कि उपलब्धि में भी अधिकांश छात्र औसत स्तर का अधिगम करेंगे और थोड़े ही छात्र औसत से अधिक या औसत से कम स्तर का अधिगम करेगे। किन्तु अधिगम के क्षेत्र में सामान्य वितरण वक्र का नियम सर्वदा लागू नहीं होता। दक्षता-अधिगम की मान्यता यह है कि कोई भी अधिगमकर्ता किसी भी विषय-वस्तु में दक्षता का स्तर प्राप्त कर सकता है। बशर्ते विषय-वस्तु को समुचित ढंग से उसके सम्मुख प्रस्तुत किया जाए और अधिगम के लिए उसे उपयुक्त समय और अभ्यास करने का अवसर प्रदान किया जाए।

दक्षता अधिगम के संप्रत्यय की चर्चा से हम एक ऐसे बिन्दु पर पहुंच गए है जहां हमें 'दक्षता' (मास्टरी) एवं 'दक्षता' के लिए 'शिक्षण' में अन्तर स्पष्ट करना होगा। जैसा पहले ही कहा गया है कि 'दक्षता' शिक्षण अधिक प्रकिया का प्रतिफल है अत. सभी शिक्षकों के लिए दक्षता को परिभाषित करना अति आवश्यक है। क्योकि शिक्षकों को यह भी प्रमाणित करना है कि छात्रो ने वांछित अधिगम उद्देश्यों को अर्जित कर लिया है या नही। शिक्षक को ही यह निर्धारित करना होगा कि ज्ञान, कौशल, क्षमता, आदि में छात्र को किस स्तर की दक्षता प्रदर्शित करनी होगी। उन्हें ही यह निश्चित करना होगा कि क्या सभी छात्रों को दक्षता के स्तर तक पहुंचाया जा सकता है या नहीं। दूसरी ओर दक्षता के लिए शिक्षण एक ऐसी प्रक्रिया है जिसके द्वारा कक्षा के छात्रों को निर्धारित अधिगम लक्ष्यों तक पहुंचाने में सहायता प्रदान की जाती है।

दक्षता अधिगम के संप्रत्यय को कक्षा मे कार्यान्वित करने हेतु शिक्षक के लिए विद्यालय, अधिगमकर्ता, कक्षा शिक्षण, शिक्षण की प्रकृति आदि से सबंधित कुछ मूलभूत अवधारणाओं को सदैव ध्यान में रखना होगा।

दक्षता अधिगम एवं विद्यालय की प्रकृति से सम्बंधित अवधारणाएं

दक्षता अधिगम कें संप्रत्यय को कार्यान्वित करने हेतु विद्यालय के संबध में मूलभूत अवधारणा यह है कि विद्यालय सोद्देश्य क्रियाकलापों का स्थल है। प्रत्येक अभिभावक अपने बच्चों को विद्यालय में निश्चित कारणों से ही भेजता है। विद्यालय की यह मान्यता है कि इन उद्देश्यों की पूर्ति होने या न होने से व्यक्ति, समाज और राष्ट्र के जीवन पर अत्यधिक प्रभाव पडता है, पड रहा है और पड़ेगा। अतः दक्षता अधिगम के लिए शिक्षण की पहली मान्यता यह है कि वांछित उद्देश्यों को पहचान कर उन्हें परिभाषित किया जाए। विद्यालय का यह उत्तरदायित्व है कि वे इन उद्देश्यों की प्राप्ति में छात्रों को सहायता प्रदान करें।

शैक्षिक उद्देश्य क्या हो और क्या होने चाहिए इस संबंध में विभिन्न शिक्षाशास्त्रियों में मतभेद हो सकते हैं किन्तु यह भी सत्य है कि इतना तो सभी चाहते हैं कि अधिगमकर्ता अपने वातावरण में प्रभावकारी ढंग से समायोजित हो सके और समाज द्वारा दिए गए उत्तरदायित्वों का प्रभावी ढंग से निर्वाह कर सके। छात्रों को उन सभी क्षमताओं एवं कौशलों

में दक्षता प्राप्त करनी होगी जिनके सहारे वे अपने लिए चुने हुए कार्यो को सफलतापूर्वक कर सकें। ये उद्देश्य छात्र के ज्ञानात्मक, भावात्मक एवं क्रियात्मक व्यवहार पक्षो से ही संबंधित न होकर सामाजिक और समस्त प्राणि जगत से भी संबंधित होने चाहिए।

स्कूल संबंधी इन मान्यताओं के पीछे कुछ अन्य मान्यताऐ भी झांकती हुई दिखाई पड़ती हैं। स्कूल का दायित्व छात्र को अपनी वर्तमान भूमिका निभाने के लिए ही दक्षता प्रदान करना मात्र नहीं है, अपितु विद्यालय को छात्रों में ऐसे कौशलों एवं योग्यताओं का विकास करना है जिनका उपयोग वे अपने भावी जीवन मे सफल होने के लिए कर सकें। स्कूल के छात्रों को वर्तमान एवं भावी जीवन मे सफल होने के लिए दक्षता प्रदान करने में सहायक बनाना है। छात्रों को सिखाने के साथ साथ विद्यालयों का लक्ष्य यह सिखाना भी है कि 'कैसे सीखा जाए'।

दक्षता अधिगम एवं अधिगमकर्ता या छात्र से संबंधित अवधारणाएं

दक्षता अधिगम के लिए छात्र की मूलभूत अवधारणा यह है कि स्कूल में जिन छात्रों को प्रवेश दिया गया है और कक्षा में बैठाया गया, वे निर्धारित शैक्षिक या अधिगम उदेश्यों को अर्जित या प्राप्त कर सकते हैं। इस अवधारणा के पीछे अन्तर्निहित विचार यह है कि व्यक्ति सीखने की योग्यता में भिन्न नहीं होते अपितु सीखने के किस माध्यम से वे लाभ उठा सकेंगे, इसमे भिन्न होते हैं। भारतीय दृष्टिकोण से इस संप्रत्यय को समझना और भी सरल है। भारतीय मान्यता के अनुसार प्रत्येक बालक 'देवपुत्र' है और उसमें सीखने की अपरिमित क्षमता है किन्तु यह भी सत्य है कि वह अधिगम की प्रत्येक विधि से लाभ उठाने की उतनी ही क्षमता नहीं रखता। सभी बालकों के लिए शिक्षण उद्देश्य तक पहुंचना संभव है। किन्तु सभी बालकों के लिए उद्देश्य तक पहुंचने के लिए अधिगम की एक ही विधि या तकनीक समान रूप से लाभकारी नही होती। भारतीय जीवन दर्शन में भी इस बात पर बल दिया गया है कि सभी परमपिता परमेश्वर या ब्रह्मा की प्राप्ति कर सकते हैं किन्तु उस महान लक्ष्य की प्राप्ति के साधन या मार्ग सभी के लिए अलग-अलग हो सकते है जैसे ज्ञानयोग, भक्तियोग, कर्मयोग आदि। मान लीजिए कुछ छात्रों को किसी निश्चित रेलगाडी को पकडने के लिए स्टेशन पहुंचना है। कोई अमीर छात्र 10-15 मिनट में अपनी कार द्वारा, कोई सामान्य छात्र बस या स्कूटर से 20-30 मिनट में, कोई गरीब छात्र पैदल एक या डेढ घंटे में स्टेशन पहुंच कर निर्धारित गाड़ी को पकड लेगा। अर्थात् लक्ष्य तक सभी अपने-अपने साधन के अनुरूप समय और सामर्थ्य का उपयोग करते हुए पहुंचने में सफल होते हैं।

दक्षता अधिगम के मूल में जॉन कैरॉल (1971) और ब्लूम एव उनके सहयोगियो (1971) की आधुनिक मनोवैज्ञानिक अवधारणा है। कैरॉल ने अभिक्षमता (एप्टीट्यूड) के विषय में एक नवीन मत का प्रतिपादन किया है। अभिक्षमता के विषय में प्रचलित अवधारणा के अनुसार यह कहा जाता है कि अभिक्षमता छात्र की वह मानसिक योग्यता है जो उसकी उपलब्धि से सह-संबंधित है अर्थात् जितनी अधिक अभिक्षमता छात्र के पास होगी, उसकी उपलब्धि भी उतनी ही अधिक मात्रा में होने की संभावना है। इस प्रचलित विचार से हटकर कैरॉल ने अभिक्षमता को किसी व्यक्ति द्वारा दिए गए कार्य को करने या सीखने में लगाए जाने वाले समय के रूप में किया है, न कि कार्य करने या उसमें दक्ष होने की क्षमता के रूप मे। उनके विचार से न्यून अभिक्षमता वाला व्यक्ति किसी कार्य में दक्ष होने के लिए अधिक समय लेगा और अधिक अभिक्षमता वाला कम समय। परन्तु दोनों ही किसी कार्य में दक्ष हो सकते है। जैसा कि हमने ऊपर के उदाहरण में देखा कि गाड़ी सभी ने पकड ली किन्तु किसी को इस कार्य में कुछ मिनट लगे तो दूसरों को घंटो।

अतः छात्रों को दक्षता अधिगम के लिए जो कुछ पढ़ाना या सिखाना है उसको पढ़ाने या सिखाने की प्रक्रिया मे छात्रों की प्रकृति के अनुसार भिन्नता हो सकती है। इसका तात्पर्य यह है कि शिक्षण और अधिगम की प्रक्रिया को व्यक्तिशः अनुदेशन (इनडिविजुअलाइज्ड इन्सट्रक्शन) के द्वारा संचालित करना होगा और प्रत्येक छात्र को अलग-अलग विधियों का सहारा लेकर शैक्षिक उद्देश्यों (दक्षता स्तर) तक पहुंचना होगा। क्योंकि शिक्षण अधिगम प्रक्रिया के फलस्वरूप शिक्षण एवं अधिगम उद्देश्यों को प्राप्त करना ही दक्षता अधिगम कहलाता है।

दक्षता अधिगम के निमित्त छात्रों से संबंधित उद्देश्य हैं –

- प्रत्येक छात्र की अध्ययन इकाई को निश्चित क्रम मे अपनी गति से सीखने के योग्य बनाना।
- प्रत्येक छात्र को व्यावहारिक रूप में दक्षता का स्तर प्रदर्शित करने में सक्षम बनाना।
- प्रत्येक छात्र में अधिगम के लिए स्वप्रयास एवं स्वनिर्देशन विकसित करना।
- प्रत्येक छात्र में अधिगम के लिए प्रेरणा जाग्रत करना।
- प्रत्येक छात्र में स्वमूल्यांकन को प्रोत्साहित करना।

दक्षता अधिगम एवं अनुदेशन या शिक्षण से संबंधित अवधारणाएं

दक्षता अधिगम की मान्यता यह है कि सभी छात्र सीखने में सक्षम है और शिक्षक इस प्रकार शिक्षण कर सकता है कि 'जो सीख सकते हैं वे सीखे हीं'। अतः दक्षता अधिगम के लिए शिक्षण सम्बन्धी अवधारणा यह है कि शिक्षण एक 'सेतु' के समान है जो छात्र को अधिगम उद्देश्यों तक पहुँचाता है। शिक्षण की उपमा हमने सेतु से इसलिए दी है कि इसके द्वारा शिक्षक और छात्र दोनों के ही कार्यो और उत्तरदायित्वों का बोध होता है। शिक्षण द्वारा शिक्षक सेतु का निर्माण करता है और छात्र को उस सेतु के सहारे अधिगम उद्देश्यों तक अपने प्रयास से पहुंचना होता है। उद्देश्यों तक पहुंचने के लिए छात्र को स्वय इस सेतु को चलकर पार करना ही पड़ेगा।

शिक्षक का दायित्व मात्र इतना ही है कि वह ऐसे सेतु का निर्माण करे जो छात्र के पूर्व-ज्ञान को अधिगम उद्देश्यों से जोडता हो। यह कार्य कहने में सरल किन्तु करने में अत्यन्त कठिन है। क्योंकि इसके लिए शिक्षक को प्रत्येक छात्र के पूर्व-ज्ञान या प्रारंभिक व्यवहार को ज्ञात करना होगा और प्रत्येक छात्र के लिए उसी बिन्दु से अधिगम उद्देश्य या अन्त्य व्यवहार (टरमिनल बिहेविअर) तक सेतु का निर्माण करना होगा। छात्र शिक्षक द्वारा निर्मित इस शिक्षण-अधिगम सेतु का सफलतापूर्वक प्रयोग कर सकें, इस निमित्त शिक्षक को कक्षा में निम्नलिखित चार समस्याओं का सामना करना पड़ेगा।

1. **ध्यानाकर्षण समस्या** - छात्रों के ध्यान को किस प्रकार विषय-वस्तु या ज्ञान स्रोतो की ओर आकर्षित कर केन्द्रित किया जाए।
2. **प्रस्तुतीकरण समस्या** – ज्ञान के स्रोतो को या विषय-वस्तु को छात्रों के सम्मुख प्रस्तुत किया जाए कि वे उसकी ओर ध्यान दें और उसे जानने या समझने की चेष्टा करें।
3. **सम्बन्धन समस्या** - प्रस्तुत विषय-वस्तु से छात्र एक प्रकार का लगाव अनुभव करें अर्थात् अधिगम की प्रक्रिया में उसका 'अहं' या 'स्व' पूर्णतया लिप्त (इगोइन्वाल्वमेंट) हो जाए। छात्र मानसिक एवं शारीरिक स्तर पर विषय-वस्तु के साथ अन्तर्क्रिया करने लगे। सबंधन की समस्या उपयुक्त शिक्षण व्यवस्था करने से सबंधित है।
4. **प्रोत्साहन समस्या** – विषय-वस्तु के साथ छात्र का संबंध निर्मित हो जाने के पश्चात छात्र सीखने की प्रक्रिया में लक्ष्य प्राप्ति तक लगा रहे। इस हेतु उसे किस प्रकार प्रोत्साहन प्रदान किया जाए।

इन समस्याओं का समाधान करने के लिए एक शिक्षक को शिक्षण अधिगम का कुशल व्यवस्थापक बनना होगा।

दक्षता अधिगम के लिए शिक्षण के सोपान

दक्षता अधिगम के संदर्भ में शिक्षक को हम एक कुशल निर्माता या कारीगर के रूप में देखते हैं जो छात्रों के व्यक्तिगत अधिगम को सामूहिक (कक्षागत) संदर्भ में व्यवस्थित करता है। शिक्षक को एक कुशल निर्माता की संज्ञा इसलिए दी गई है कि शिक्षण की प्रक्रिया में 'विज्ञान' और 'कला' दोनों के ही तत्व अन्तर्निहित हैं। एक वैज्ञानिक के समान एक निर्माता (शिक्षक) बार-बार एक ही प्रतिफल या उत्पादन को उत्पादित करता है किन्तु एक कलाकार के समान उसे इस बात की भी स्वतंत्रता रहती है कि वह अपने उत्पादनों में अपने व्यक्तित्व एवं कौशल की अद्वितीय छाप लगा दे।

दक्षता अधिगम के निमित्त शिक्षक के लिए निम्नलिखित व्यावहारिक पदों का अनुसरण करना होगा —

प्रथम सोपान : पाठ्यक्रम विभाजन

समग्र पाठ्यक्रम को अधिगम इकाइयो में विभाजित करना। ऐसी इकाइयां अपने आप में पूर्ण होनी चाहिए जिन्हें एक या दो सप्ताह में पढ़ाया जा सके।

द्वितीय सोपानः अधिगम उद्देश्य निर्धारण

प्रत्येक इकाई के शैक्षिक या अधिगम उद्देश्यों को पहचान कर व्यवहारपरक शब्दावली में परिभाषित करते हुए उन्हें लिख लेना चाहिए। सभी प्रकार के शैक्षिक उद्देश्यो जैसे ज्ञानात्मक, भावात्मक, क्रियात्मक, सामाजिक आदि पर बल देना चाहिए और उन्हें व्यवहारपरक शब्दावली में परिभाषित करना चाहिए।

तृतीय सोपान : दक्षता स्तर निर्धारण

प्रत्येक अधिगम इकाई के उद्देश्यो को परिभाषित करने के पश्चात् यह निर्धारित करना चाहिए कि छात्र किस स्तर का व्यवहार करने पर अधिगम में दक्ष समझे जाएंगे। सामान्यतः परीक्षणों में प्राप्तांकों का प्रतिशत दक्षता का द्योतक माना जाता है। अतः हम यह निश्चित कर सकते हैं कि कितने प्रतिशत अंक प्राप्त करने पर छात्र को दक्ष या उत्तीर्ण माना जाएगा दक्षता अधिगम के सम्प्रत्यय में विश्वास रखने वाले शिक्षक इसे 80-85 प्रतिशत प्राप्तांक स्तर पर निर्धारित करते हैं। किन्तु इसे विषय और परीक्षण की प्रकृति के आधार पर कुछ घटाया या बढ़ाया भी जा सकता है।

चतुर्थ सोपान : कक्षा में सामान्य शिक्षण

निर्धारित किसी एक इकाई को इकाई के शिक्षण उद्देश्यों की प्राप्ति के लिए कक्षा में पढ़ाया जाता है। यह कार्य इकाई के लिए निर्धारित समय (एक या दो सप्ताह) तक चलता है।

पंचम सोपान : निदानात्मक परीक्षण एवं निर्माणात्मक मूल्यांकन

निर्धारित इकाई के शिक्षण के पश्चात यह ज्ञात करने के लिए कि छात्रों ने अधिगम के उद्देश्यों को किस सीमा तक प्राप्त किया है, निर्माणात्मक मूल्यांकन करना चाहिए। इस हेतु शिक्षकों को निदानात्मक या सन्दर्भित परीक्षणो का प्रयोग करना चाहिए। इन परीक्षणों के परिणाम से यह ज्ञात होता है कि छात्र दक्षता की किन-किन कसौटियों पर खरा उतरा और किन-किन कसौटियों या उद्देश्यो को प्राप्त नहीं कर सका। शिक्षक इन परीक्षणों का उपयोग छात्रों की त्रुटियों एवं कमियों का निदान करने के लिए करता है। वह छात्रों को प्रतिपुष्टि (फीडबैक) प्रदान करता है।

षष्ठम सोपान : सुधारात्मक अधिगम अनुभव व्यवस्था

पढाई गई इकाई की अधिगम दक्षता स्तर को अर्जित न करने वाले छात्रों को त्रुटियो को दूर करने एवं उनकी दक्षता के निर्धारित स्तर तक लाने के लिए सुधारात्मक शिक्षण की व्यवस्था करना ही इस सोपान का मुख्य उद्देश्य है। इस कार्य के लिए शिक्षक को छात्रों के लिए अतिरिक्त समय देना होगा। सुधारात्मक शिक्षण के पश्चात् पुनः परीक्षण के द्वारा यह ज्ञात करना होगा कि छात्र दक्षता स्तर तक पहुंचा या नहीं। दक्षता प्राप्ति तक शिक्षण और परीक्षण का यह चक्र चलता रहेगा।

सुधारात्मक शिक्षण के लिए अनेक उपागमो का प्रयोग किया जा सकता है — जैसे दूसरी पाठ्यपुस्तकों का प्रयोग, अभिक्रमित (प्रोग्राम्ड) शिक्षण सामग्रियों का प्रयोग, व्यक्तिशः अनुदेशन, एक तरह की कठिनाई वाले छात्रो का समूह बनाकर पढाना आदि। यदि किसी छात्र को इनमें से किसी एक उपागम को अपनाने से सफलता नहीं मिलती तो वह दूसरे या कई एक उपागमों का सहारा ले सकता है।

सप्तम सोपान : पाठ्यचर्या की समाप्ति पर पूर्ण परीक्षण या संकलनात्मक मूल्यांकन (सुमैटिव इवैल्यूएशन)

इकाई दर इकाई दक्षता अर्जित कराते हुए पाठ्यचर्या की समाप्ति पर पूर्ण परीक्षण की व्यवस्था की जाती है। परीक्षण के परिणाम दक्षता अधिगम के लिए ठोस आधार प्रदान करते है। इनमें से छात्रों की अधिगम दक्षता एवं शिक्षकों के शिक्षण की प्रभावकारिता का मूल्यांकन संभव हो पाता है। यदि अधिकांश छात्र (80-85 प्रतिशत) अधिगम दक्षता स्तर को प्राप्त कर लेते हैं तो दक्षता-अधिगम सम्पन्न हुए, यह समझा जाएगा। अन्यथा शिक्षण सामग्री, शिक्षण विधि, एवं शिक्षण व्यवस्था की गहराई से छानबीन की जाती है और उसे संशोधित, परिमार्जित तथा पुनर्नियोजित कर छात्रों को पुनः दक्षता के स्तर तक लाने का प्रयास किया जाता है।

हमारे विद्यालयों का घोषित उद्देश्य दक्षता अधिगम होना चाहिए न कि पाठ्यक्रम को मनमाने ढंग से पूरा कर देना मात्र। दक्षता अधिगम के उद्देश्य को चरितार्थ करने के

लिए उपर्युक्त सप्त सोपानों का अनुसरण कर हम विद्यालय में अध्ययन करने वाले सभी छात्रो को 80-85 प्रतिशत अधिगम दक्षता तक पहुंचाने मे सफलता प्राप्त कर सकते हैं। इससे छात्रों में वांछित उपलब्धि होगी, उनके व्यक्तित्व का सर्वांगीण विकास होगा और शिक्षक राष्ट्र निर्माण में अपनी वास्तविक भूमिका निभाने में सफल होंगे। ❑❑

बी. 4/56-बी
हनुमान घाट, वाराणसी

बालकों के सर्वांगीण विकास में स्नेह का स्थान

❑ वी. के. राय

शिक्षा द्वारा बालक का सर्वागीण विकास हो, यह निर्विवाद सत्य है। लेकिन कैसे हो ? यह एक जटिल प्रश्न है। यदि इसका उत्तर या तरीका आसान होता या ज्ञात होता तो अब तक जो भी बालक शिक्षा ग्रहण कर चुके हैं, उनका सर्वागीण विकास हो चुका होता लेकिन ऐसा नही हुआ है, यह एक कटु सत्य है।

सर्वांगीण विकास में मुख्यतया शारीरिक, मानसिक एवं आध्यात्मिक पक्षों को सम्मिलित किया जाता है। सर्वागीण विकास के सपने को साकार करने के संदर्भ में अध्यापकों एवं अभिभावकों की भूमिका विशेष महत्व की होती है।

आज का अध्यापक ब्रह्मा, विष्णु और महेश या गोविन्द तो नहीं हो सकता। प्राचीन संस्कृति में गुरु के प्रति एक मान्यता थी, आदर का भाव था। न तो अब वैसा गुरू ही बन सकता है और न वह मान्यता ही प्रतिष्ठित हो सकती है। आज का शिक्षक एक मित्र है, एक दार्शनिक है, एक पथ प्रदर्शक है। बालकों के विकास को वांछित दिशा में सम्पन्न कराने के लिए एक शिक्षक को अन्य बातों के अलावा स्नेहमय होना अति आवश्यक है। इस गुण के अभाव में एक शिक्षक अपने कर्त्तव्यों का न तो ठीक से निर्वाह कर सकता है और न अपने वांछित लक्ष्यों को प्राप्त करने में सफल हो सकता है। यह अकाट्य सत्य है कि स्नेह शिक्षक एवं शिक्षार्थी के बीच व्याप्त सम्बन्धों की उष्मा का अजस्र स्रोत है। विद्यार्थी के व्यक्तित्व को विकसित करने के संदर्भ में शिक्षक के प्रयासों का प्रेरक तत्व स्नेह ही है। यह स्नेह की उष्मा ही है जो शिक्षार्थी के व्यक्तित्व को मोम की तरह पिघलाकर नए सांचे में ढालते हुए उसे आन्तरिक सुघड़ता देती है। इसलिए शिक्षक को स्नेहपूर्ण, सहानुभूतिपूर्ण तथा प्रोत्साहनपूर्ण व्यवहार करना चाहिए। सच कहा जाए तो उसे तानाशाह बनने के स्थान पर एक जिन्दादिल मां के रूप में अपने छात्रों के साथ व्यवहार करना चाहिए। बालकों के प्रति नकारात्मक दृष्टिकोण अपनाना तथा हतोत्साहित करने वाले व्यवहार को प्रदर्शित करना सफल शिक्षक के लिए वर्जित कार्य है। कई शिक्षक ऐसा कहते हैं कि, " तुम्हें पढने-लिखने से क्या मतलब ! तुम तो हमारे परिश्रम तथा अपने मां-बाप के पैसों को बरबाद करने पर तुले हो।" ऐसे उपेक्षापूर्ण शब्द बाणों से शिक्षकों को बालकों का स्वागत नहीं करना चाहिए। यह कैसी विडम्बना है कि जब बालक अच्छे अंकों से उत्तीर्ण हो जाते हैं तो सफलता के उस यशस्वी सुनहरे सुन्दर सेहरे को बांधने के लिए सभी अत्यन्त उत्सुक, उत्फुल्ल तथा तत्पर दिखाई देते हैं। परन्तु जब ये ही बालक असफल हो जाते हैं तो सम्पूर्ण जिम्मेदारी रूपी काले धुएं से इन निरीह,

भयाक्रान्त बालकों को आच्छादित करके हम अपनी ज़िम्मेदारी से बरी होना चाहते हैं। ऐसे बालकों को शैक्षिक विकलांगता से भी विभूषित किया जाता है। सभी संबंधित व्यक्ति दूसरों पर छींटाकशी करके अपना दामन पाक रखने के लिए जुट जाते हैं। परन्तु इस तरह का नकारात्मक दृष्टिकोण एवं अपनी जिम्मेदारी को दूसरों पर फेंकने की प्रवृत्ति हानिकारक होती है। इस सम्बन्ध में मुझे दो पंक्तियों का स्मरण आता है —

"अंधकार को क्यों धिक्कारें
अच्छा हो एक दीप जलाएँ"

हमें निश्चित रूप से इस बात का अनुभव करना चाहिए कि अपनी असफलता से आत्मप्रताड़ित ऐसे बालकों को हमारी सहानुभूति रूपी मरहम की परमावश्यकता है। सहृदयतापूर्ण प्रोत्साहन, समुचित निर्देशन तथा कोमल भावनाओं के प्रदर्शन से हम बालकों में एक नवीन उत्साह तथा नया जीवन भर सकते हैं। शिक्षकों की सहानुभूति एवं प्रोत्साहन रूपी पौष्टिक खाद को प्राप्त करके ये बालक अपने अन्दर एक नवीन परिश्रम एवं उमंग की भावना को प्रस्फुटित कर सकेंगे। ग्रामीण परिवारों में जहां अधिकांश माता-पिता अशिक्षित अथवा अर्द्धशिक्षित होते हैं बाल मनोविज्ञान की बारीकियों से परिचित नहीं होते हैं। ऐसी स्थिति में अध्यापकों का यह पावन दायित्व है कि असफलता से उत्पन्न इस भयानक नैराश्यपूर्ण मनःस्थिति में बालक के प्रति सहानुभूतिपूर्ण दृष्टिकोण अपनाएं तथा स्नेहपूर्ण व्यवहार प्रदर्शित करें जिससे वे छात्र अपने अन्दर एक नया आत्मविश्वास तथा नवीन आस्था का संचार कर सकें एवं सम्पूर्ण विश्वास के साथ क्षणिक असफलता को स्थाई एवं चिरन्तन सफलता के रूप में बदल सकें। कहने का तात्पर्य यह है कि असफलता के समय बालक को प्रताड़ित एवं लांछित करने की अपेक्षा उसे उसकी असफलता के आधारभूत कारणों से सहानुभूतिपूर्वक एवं स्नेहपूर्वक अवगत कराना चाहिए। इसके अलावा बिना किसी पूर्वाग्रह एवं नकारात्मक प्रतिक्रिया के बालकों के अन्तर्मन में नवजीवन के नवीन प्रेरणा की ज्योति भी प्रज्वलित करनी चाहिए। इससे देश के भावी कर्णधार ये बालक अपने भावी जीवन के प्रति आशान्वित हो अपने भावी जीवन का केवल मार्ग ही प्रशस्त नहीं करेंगे बल्कि ऐसी संकटपूर्ण स्थिति में अपनी नैया को उबारने का सम्पूर्ण श्रेय शिक्षकों को अर्पित कर उनके ऋणी एवं आभारी बने रहेंगे। उनके सुकोमल मानस पटल पर अंकित शिक्षकों की पावन मूर्ति एक कल्याणकारी एवं प्रकाशमय दीप के समान सदैव जगमगाती रहेगी।

बालकों के व्यक्तित्व का सर्वांगीण विकास करने के संदर्भ में शिक्षकों के साथ-साथ घर के असीम महत्व को नकारा नहीं जा सकता है। शैशव के दर्पण में ही व्यक्ति के भावी जीवन की स्पष्ट झलक मिलती है। बालक को प्रथम शिक्षा अपनी मां के चुम्बन तथा पिता के आलिंगन से प्राप्त होती है।

सुसंस्कृत, श्रमशील, अनुशासित और धुनी बच्चे ही महापुरुष बनते देखे गए हैं। इसके विपरीत विश्व के समस्त कुख्यात अपराधियों के जीवन से यही स्पष्ट होता है कि उनका शैशवकाल कुण्ठाओं को बढ़ाने वाला तथा उच्छृंखलता को पनपाने वाला रहा है। संस्कारों की मूल प्रेरणा शिशु को मां और परिवार से मिलती है। अतः किसी बच्चे में गलत प्रवृत्तियों को पनपा देखकर जरूरत स्वयं अपने ही आत्म निरीक्षण की होती है। बच्चों पर झुंझलाने तथा उन्हें प्रताड़ना देने से सुधार संभव नहीं हो सकता है। वस्तुतः बच्चे के मन में प्यार पाने की प्यास प्रबल रहती है। उद्दण्ड, उच्छृंखल बालक के व्यवहार का यदि विश्लेषण किया जाए तो जानकारी मिलेगी कि स्नेह के अभाव में उसकी सहज प्रवृत्तियां मुरझा गई हैं। किसी बालक की दुर्बलता का उपहास उसे उद्दण्ड बनाने का ही उपकर्म है। अनेक माता-पिता अपने बालकों के दुर्गुणों के प्रति ऐसी सतर्कता दिखाते हैं कि वे बालकों को मात्र उनकी दुर्बलताओं का स्मरण कराते रहते हैं। इसका परिणाम निश्चित है — जो बोया जाएगा वही काटा जाएगा। बालक की मृदु, उर्वर, प्राणवान, उष्माभरी भावभूमि में जब दुर्गुण, दुर्बलताओं को याद दिलानेवाले बीज बोए जाएंगे तो भावी फसल का स्वरूप स्वयं सिद्ध है।

सारांश रूप में कहा जा सकता है कि बालकों के व्यक्तित्व का सर्वांगीण विकास करने के लिए शिक्षकों और अभिभावकों को उनके प्रति स्नेहमय व्यवहार करना चाहिए। उन्हें बालकों के अन्दर परिलक्षित किसी दोष या कमी के प्रति नकारात्मक दृष्टिकोण नहीं अपनाना चाहिए। इसके अलावा उन्हें 'चोटी कर चम-चम, विद्या आवे धम-धम' के

सिद्धान्त में भी विश्वास नहीं करना चाहिए। निःसंदेह दोनों के स्नेहमय व्यवहार तथा सकारात्मक दृष्टिकोण से ही बालकों के व्यक्तित्व का सर्वागीण विकास का सपना पूरा किया जा सकता है। हर बालक में स्नेह, सहानुभूति व प्रोत्साहन पाने की तीव्र लालसा होती है। वह इनकी प्राप्ति के लिए आशा भरी दृष्टि से अध्यापकों एवं अभिभावकों को निहारता है। जब दोनों ओर से उसकी अपेक्षाओं की पूर्ति नहीं होती, तब वह अपनी मित्र मंडली मे उनको प्राप्त करने का प्रयास करता है। यदि मित्रमंडली सुःसंस्कारित व अध्ययनशील हो तो बालक का वाछित दिशा में विकास संभव होता है। इसके विपरीत बुरी आदतो वाले अनुशासनहीन बालकों की संगति में बालक बिगड़ जाता है। बालक के निर्माण में यह तीसरा पक्ष बहुत महत्व रखता है।

यदि अभिभावक एवं अध्यापक बालकों से निकट सम्पर्क रखें, उन्हें स्नेह, सहानुभूति व प्रोत्साहन दें एवं उनके मित्रों के सम्बन्ध में निरन्तर जानकारी लेते रहें तो निश्चित ही बालकों के कार्यों पर सकारात्मक प्रभाव पड़ेगा और उनके सर्वागीण विकास का मार्ग प्रशस्त होगा। ❑❑

प्रवाचक
शिक्षा विभाग
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आज़मगढ़, उ. प्र.

विचार प्रदूषण : एक गंभीर समस्या

❑ बनश्री शील

आजकल पर्यावरण सन्तुलन बनाए रखने के लिए सम्पूर्ण विश्व में पर्यावरण प्रदूषण एक विश्व व्यापी समस्या के रूप में चर्चा का विषय बना हुआ है। पर्यावरण प्रदूषण, कारण और निवारण ये कुल तीन मूल विषय हैं जिन पर यथासमय स्थान-स्थान पर सभाए, गोष्ठियां आदि होती रहती हैं। इन सभाओं और गोष्ठियों के जो परिणाम निकलते हैं उनका सीधा सम्बन्ध वृक्ष से है क्योंकि वृक्ष को ही ऐसा मापदण्ड माना गया है जो पर्यावरण को शुद्ध करता है।

यह तो हुआ स्थूल दृष्टिकोण। इसके अंतर्गत सूक्ष्म जगत अथवा प्रदूषण के सूक्ष्म कारण अपेक्षित ही बने रहते हैं। वस्तुतः हम यह भूल जाते हैं कि हमारे विचार वातावरण पर कितना व्यापक, गहन एवं दूरगामी प्रभाव डालते हैं। यह बात शोध द्वारा सिद्ध की जा चुकी है कि संगीतमय वातावरण में पौधे जल्दी बढ़ते हैं, वृक्ष अधिक फल देते हैं और रोगी अपनी बीमारी से जल्दी ही मुक्ति पाता है फिर भी हम विचार प्रदूषण के प्रति उदासीन ही बने रहते हैं। यह समय की पुकार है कि सदैव विचार प्रदूषण के प्रति सतर्क रहें।

हमारे विचार हमारे समस्त कार्यो को प्रेरित करते हैं और गतिविधियों की एक रूपरेखा भी निर्धारित करते हैं। हमारे विचार जैसे होते हैं हम वैसे ही बन जाते हैं, वैसी ही हमारी शारीरिक स्थिति होती है, यदि हम चाहें कि हमारी स्थिति इसके विपरीत हो, तो यह असम्भव है।

विचार किस प्रकार बाह्य जगत को प्रभावित करता है इसे जानने के लिए आज के सामाजिक दृष्टिकोण पर आलोकपात करना होगा। ईर्ष्या, द्वेष, घृणा व वर्ग-संघर्ष आदि के विचारों ने हमारे समाज में लूट खसोट, छीना-झपटी, आतंक, संत्रास व असुरक्षा आदि से बोझिल दुःखद वातावरण उतपन्न कर दिया है। ये वही विचारधाराएं हैं जो दुष्कर्म की ओर ले जाती हैं व दुष्कर्म के लिए अनुकूल वातावरण का सृजन भी कर देती हैं। इन समस्याओ को कभी राजनीतिक समस्या, सामाजिक समस्या या फिर धार्मिक समस्या के रूप में जाना जाने लगा है। तनिक गम्भीरता से विचार करने पर हम यह देखते हैं कि इनका सीधा सम्बन्ध जीवन के नैतिक पक्ष अथवा विचार जगत से है। हमारे कुत्सित विचार ही कुत्सित आचरण की प्रेरणा प्रदान करते हैं।

चारों तरफ वैमनस्य व आतंक का वातावरण बनाने वाले के मन का परीक्षण करने पर यह विदित होता है कि वहां राग-द्वेष व हिंसा के विचारों का सागर हिलोर ले रहा है। प्रसंगानुसार भगवान राम के संबंध में गोस्वामी तुलसीदास की पंक्तियां प्रस्तुत हैं –

जाकी रही भावना जैसी प्रभु मूरत देखी तिन तैसी।

किसी व्यक्ति में मर्यादा पुरुषोत्तम राम के प्रति जो विचार या भावना होती है उसी प्रकार वे उनको देखता है। प्रधानता विचारों की है। यदि हमारे विचार सुन्दर हैं तो हमें प्रत्येक वस्तु में सुन्दरता की प्रधानता दिखाई देती है। यदि विचारों में कलुषता है तो सुन्दर भी हमें विकृत लगने लगती है।

स्वस्थ शरीर में ही स्वस्थ मस्तिष्क का निवास होता है। 'स्वस्थ' से तात्पर्य शारीरिक व मानसिक स्वास्थ्य से है। स्वस्थ मस्तिष्क का मनुष्य अपने आस-पास का वातावरण कभी भी दूषित नहीं करता। मात्र अस्वस्थ मस्तिष्क का मनुष्य ही शांतिपूर्ण वातावरण में विकार उत्पन्न करता है। परीक्षण व प्रयोग द्वारा यह सिद्ध किया जा चुका है कि विचार मनुष्य के मानसिक स्वास्थ्य एवं शारीरिक स्वास्थ्य पर गहरा प्रभाव डालते हैं। गीता में इसका उल्लेख मिलता है –

क्रोधाद्भवति सम्मोहः सम्मोहत्स्मृति विभ्रमः।
स्मृति भ्रंशाद बुद्धिनाशो बुद्धिनाशात्प्रणश्यति।।

क्रोध से अत्यन्त मूढ़भाव उत्पन्न हो जाता है, मूढ़भाव से स्मृति में भ्रम हो जाता है, स्मृति में भ्रम हो जाने से बुद्धि अर्थात् ज्ञानशक्ति का नाश हो जाता है और बुद्धि का नाश हो जाने से पुरुष अपनी स्थिति से गिर जाता है।

क्रोध में मनुष्य पागल हो जाता है, ईर्ष्या में व्यक्ति की दृष्टि अत्यन्त संकुचित हो जाती है। क्रोध और ईर्ष्या आश्रय अथवा धारणकर्ता के खून को जलाते रहते हैं। द्वेष, घृणा, वैमनस्य व्यक्ति को असहिष्णु और कटुभाषी बना देते हैं।

कुविचार आत्मा को दूषित कर देते हैं। विचार प्रदूषण के दुष्प्रभावों से मुक्त रहने के लिए प्राचीन काल में ऋषियों ने अनेक विधि-विधानों का अन्वेषण किया था जिनमें से एक है – यज्ञ। भौतिक यज्ञ पर्यावरण को शुद्ध करता है और यज्ञ की भावना हमारे विचारों को पवित्र एवं आचरण को अभ्युदय एवं श्रेयस का विधायक बना देती है। इसलिए दूषित विचार सर्वथा त्याज्य एवं अग्राह्य है।

भावी पीढ़ी अपना विचार सदा स्वच्छ रखना होगा जिससे समाज मे शान्ति का वातावरण कायम हो सके और देश बहुमुखी विकास की ओर अग्रसर हो सके। जब कोमल मस्तिष्क में ही सुन्दर विचारों का पल्लवन होगा तब समय आने पर वे सुन्दर विचार पुष्प बनकर अपनी सुगन्ध चतुर्दिक अवश्य ही विकीर्ण करेंगे।

उचित-अनुचित विचारों का चयन कैसे किया जाए इसका एक सरलतम उपाय यह है कि हमारे हृदय में विवेकरूपी न्यायाधीश विराजमान है। यह न्यायाधीश हमें उचित अनुचित का निर्णय बताता रहता है। हमारा यह कर्तव्य है कि उसकी बात मानें और उचित विचार और सदाचार के प्रति निष्ठावान बने रहें। ❑❑

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विकलांग बच्चों में क्षमताओं पर विश्वास जगाएं

❑ **आदर्श मदान**

गणतन्त्र दिवस की परेड में मुझे सर्वाधिक आकर्षक झांकी लगी विकलांगों का भांगड़ा नृत्य। हाथों से विकलांग बालक पैरों से विकलांग बालक को कन्धे पर बैठा कर भांगड़ा कर रहे थे। कुछ हुर्र-हुर्र कर रहे थे तो कुछ संगीत के साथ साइकिलों को तेज़ी से घुमा रहे थे। उल्लास और उमंग की कहीं कमी नहीं थी। मुझे यह दृश्य देख कर लगा कि ये बच्चे बहुत कुछ कर सकते हैं, यदि इन्हें इनकी क्षमताओं पर विश्वास हो सके। शिक्षकों का दायित्व इस दृष्टि से पर्याप्त महत्वपूर्ण है। इन्हें अन्य प्रकार से समर्थ मानते हुए इनमें यह अनुभूति जाग्रत की जानी चाहिए।

इस सन्दर्भ में गेब्रिएल मिस्राल के विचार माननीय हैं। "हम कई गलतियों और भूलों के दोषी हैं लेकिन हमारा सबसे बड़ा अपराध है बच्चों की अनदेखी करना जो वास्तव में खिलते जीवन की अनदेखी है। हमारी कई आवश्यकताएं टाली जा सकती हैं लेकिन बच्चों की उपेक्षा नही की जा सकती। बाल्यावस्था में हड्डियां विकसित होती हैं। शरीर

में रक्त बनता है और ज्ञानेन्द्रियों का विकास होता है। उसे हम कल पर नहीं टाल सकते। उसका नाम आज है केवल आज।"

विकलांगों के सन्दर्भ में शिक्षकों की अहम् भूमिका है। आंकड़ों के अनुसार विश्व में पैदा होने वाले दस बच्चों में से एक विकलांग होता है। ये बच्चे जन्म से या जन्म के बाद होने वाली किसी बीमारी से विकलांग हो जाते हैं। विकलांग होने के कई कारण हो सकते हैं जैसे बीमारी, कुपोषण, पर्यावरण अथवा दुर्घटना आदि। माता-पिता, शिक्षक एवं समाज यदि जागरूक हो तो 75 प्रतिशत विकलांगता रोकी जा सकती है अथवा उसका प्रभाव क्षीण किया जा सकता है। इसमें पोषाहार, पेय जल की शुद्धता, पर्यावरण, रोगों की प्रतिरोधात्मक क्षमता आदि के प्रति सचेत रहना आवश्यक है। उदाहरण के लिए आयोडीन युक्त नमक खाने तथा स्वच्छ जल की व्यवस्था होनी चाहिए। क्षय, पोलियो आदि रोगों से समय रहते बच्चे में प्रतिरोधात्मक क्षमता पैदा की जाए तो कई बच्चे विकलांग होने से बच सकते हैं। विद्यालय में समय-समय पर पोषाहार, स्वच्छ पर्यावरण, रोगों की जानकारी, उनसे बचने के उपायों पर वार्ताएं आयोजित करवाकर या पोस्टर्स लगाकर तथा व्यक्तिगत सम्पर्क द्वारा उनकी समस्याओं के प्रति जागरूक रहकर कई बच्चों को विकलांगता से बचाया जा सकता है।

आइनस्टीन के शब्दों में, "जब तक सभी पुरुषों/महिलाओं के लिए रहन-सहन की अच्छी परिस्थितयां पैदा कर उन्हें बनाए रखने की ज़िम्मेदारी सभी देशों के नागरिक नहीं समझ लेते, तब तक हमें मानवता के सभ्य होने की बात करने का कोई हक नहीं है।

विकलांग बच्चों में जो भी सामर्थ्य है उसके प्रति उन्हें सचेत कर उनके उन गुणों को विकसित किया जाना चाहिए। शिक्षा का इससे गहरा ताल्लुक है। अभिभावक शिक्षित हों तो ऐसे मामलों में सकारात्मक दृष्टिकोण पनप सकता है। शिक्षकों को साक्षरता कार्यक्रम से भी उत्साहपूर्वक जुड़े रहना चाहिए। महिला साक्षरता और बालिका शिक्षा से शिक्षित माएं भी इस दिशा में सचेत रह सकती हैं। वे विकलांगता को रोकने में सीधे मददगार हो सकती हैं। आत्मनिर्भरता तथा अन्य गुणों के विकास व लिंगभेद को समाप्त कर लड़कियों को भी समाज में समान दर्जा प्रदान कर उन्हें भी विकास के समान अवसर प्रदान करने चाहिए। इससे स्वस्थ बालिका में विकलांगता पनपने की संभावनाओं में कमी आ सकती है। विकलांग बालिका में भी अपनी क्षमता पर विश्वास जगाना चाहिए।

अभिभावक और बच्चों की देखभाल हेतु शिक्षक प्रेरक वातावरण उपलब्ध कराएं। आपसी सामन्जस्य से स्थितियों को सुधारा जा सकता है। विकलांगता को स्थाई अपंगता बनने से रोका जा सकता है। इसके लिए विशेष रूप से जागरूक रहना आवश्यक है। प्रत्येक बच्चें को पूर्ण विकास क्षमता प्राप्त करने का अधिकार है। इसी प्रकार विकलांग बच्चे को देखभाल, सुरक्षा, समन्वय और विकास प्रक्रिया में शामिल हाने का अधिकार है। ये बच्चे अन्य प्रकार से समर्थ होते हैं। इनके सीखने की जरूरत पर ध्यान देना आवश्यक है ताकि वे व्यक्तिगत रूप से विकसित होने की क्षमता प्राप्त कर सकें।

शिक्षकों को इस ओर समाज का भी प्रेरक रुख स्थापित करना चाहिए ताकि समाज ऐसी परिस्थितियां उपलब्ध कराएं कि विकलांग बच्चे सामान्य बच्चों के साथ बैठकर जीवन के विभिन्न पहलुओं पर बात करें। उनकी शिक्षा, प्रशिक्षण, स्वास्थ्य सेवाएं, पुनर्वास सेवाओं, रोज़गार की तैयारी, मनोरंजन के अवसरों, व्यावसायिक सेवाओं आदि के लिए प्रयास किए जाने चाहिए। विकलांगों के लिए किए जाने वाले प्रयास अन्य बच्चों के लिए भी लाभप्रद हैं।

अन्तिम और सर्वाधिक महत्वपूर्ण है बच्चे की अनुभूतियों के मूल को विकसित करना। यह कई पुनर्वास गतिविधियों का आधार है। लोगों में भी विकलांगों के प्रति दृष्टिकोण परिवर्तन आवश्यक है। प्रायः उन्हें कोई काम देने के समय उनकी क्षमताओं पर विश्वास रखें तभी उनमें आत्मविश्वास उत्पन्न होगा। उनकी विकलांगता को बढ़ा-चढ़ा कर देखने या संवेदना व्यक्त करने के स्थान पर यह देखें कि वे कितना कुछ कर सकते हैं। कोई पेन्टिंग अच्छी करता है, कोई अच्छा गाता है या वाद्य बजाता है, कोई टाइप कर सकता है, तो कोई कम्प्यूटर का कार्य आदि। जो काम वह कर सकते हों या उनमें जो भी गुण हों, उसी को प्रोत्साहित करना चाहिए। विकलांगों को भी अन्य लोगों कें समान काम को करने और समाज में भरपूर योगदान देने का अधिकार है। इसके लिए आवश्यक है कि उन्हें अपनी क्षमताओं पर विश्वास हो। आइए, इसमें हम उनकी सहायता करें। ☐☐

आदर्श निकुंज
डा. क्षेत्रपाल क्लीनिक के पीछे
कचहरी रोड, अजमेर

प्रारंभिक शिक्षा की गुणवत्ता में सुधार के सुझाव

❑ डी. के. राय

शिक्षा का प्रमुख आधार है प्राथमिक शिक्षा जिसका प्रमुख आधार स्तम्भ प्राथमिक शिक्षक है। आज का शिक्षक विभिन्न समस्याओ से ग्रस्त है जिसमें कुछ पारिवारिक और कुछ जीविकोपार्जन सम्बन्धी है। इन सब समस्याओं का प्रभाव उसके क्रियाकलापों पर प्रत्यक्ष एवं अप्रत्यक्ष दोनो तरह से पडता है। शिक्षा की गुणवत्ता में सुधार लाने के लिए सभी सचेष्ट प्रतीत होते है, परन्तु जिस वातावरण में शिक्षक कार्यरत है और जिस व्यवस्था से वह जुडा है उसमें सुधार लाने के लिए कोई आगे नहीं आता है। शिक्षक की इन समस्याओं का समायोजित समाधान होने पर ही शिक्षा स्तर में सुधार सम्भव है।

प्रायः देखा गया है कि शिक्षण उपाधियां प्राप्त कर आने वाले नये अध्यापक उत्साही एवं मौलिक सृजनात्मक विचारों से परिपूर्ण होते हैं। वे शिक्षा के प्रत्येक क्षेत्र में सुधार लाना चाहते हैं, आमूल-चूल परिवर्तन चाहते है। नए शिक्षक के लिए उसकी पाठशाला एक "प्रयोग स्थल" है, विभिन्न पुस्तकों में पढे विभिन्न लेखको के विचार उसके मस्तिष्क को विचलित करते रहते है। शिक्षक इन सिद्धांतों को कार्यरूप में परिणत होते हुए देखना चाहता है। परन्तु वास्तविकता कुछ और ही है। उसके विचारों का टकराव एक ऐसे वातावरण व व्यवस्था से होता है जहां परिवर्तन की सम्भावना कम है। शिक्षा मे नवाचार की कमी, परीक्षा पर आश्रित अध्यापन प्रक्रिया, अपरिवर्तनीय समय सारिणी, संकीर्ण विचारो वाले सहयोगी, नगण्य सांस्कृतिक गतिविधिया, शैक्षिक कर्णधारों का उपेक्षित व्यवहार एक ओर तथा दूसरी ओर "नया अध्यापक"। परिणाम स्पष्ट है कि शिक्षक यन्त्रचालित कठपुतली के समान नए माहौल में शनैःशनै ढलता जाता है। अब प्रश्न उठता है कौन उत्तरदायी है इस दुर्दशा के लिए – शिक्षक, मुख्य अध्यापक, शिक्षा अधिकारी अथवा सम्पूर्ण तन्त्र !

प्रस्तुत अनुसंधान एकांश प्राथमिक शिक्षकों की समस्याओं एवं उनके समयोचित समाधान पर आधारित समालोचनात्मक विवेचन है।

उद्देश्य

- ❑ अध्यापकों के सांस्कृतिक कार्यक्रमों एवं अन्तःसेवा प्रशिक्षण कार्यक्रमो में रूचि न लेने के कारणो का पता लगाना।
- ❑ अध्यापकों द्वारा बौद्धिक योग्यता बढाने एवं स्वाध्याय में रुचि न लेने के कारणो का पता लगाना।
- ❑ अध्यापकों का पाठशाला मे सुधार सम्बन्धी विचार व कठिनाइयों का अपने उच्च अधिकारियों के सम्मुख न रख पाने के कारणों का पता लगाना।
- ❑ अध्यापकों का पठन-पाठन प्रक्रिया में रुचि न लेने के कारणो का पता लगाना।
- ❑ अध्यापकों का विद्यालय प्रशासन से सन्तुष्ट न होने के सम्भावित कारणों का पता लगाना।

कार्य-विधि

प्रस्तुत अनुसंधान एकाश अन्तःसेवा शिक्षक अभिविन्यास कार्यक्रम 1990-91, 1991-92 एव 1992-93 के लिए आए हुए दिल्ली नगर निगम (उत्तरी ज़िला) के प्राथमिक शिक्षकों द्वारा प्रस्तुत विचारो पर आधारित है। प्रत्येक शिक्षक को प्रश्नावली अनुसूची दी गई जिसमें 50 प्रश्नों का उत्तर हां या न में देना था। प्रश्नों को निम्न क्रम से 5 भागों में बाट दिया गया। इन सभी विभागों का प्रत्यक्ष एवं अप्रत्यक्ष सम्बंध शिक्षा की गुणवत्ता से है। प्रश्नों के माध्यम से यहं जानने का प्रयास किया गया कि अध्यापकों

के समस्त शिक्षा के क्षेत्र में काम करने में कौन-कौन सी बाधाए आती हैं।

ये सभी प्रतिक्रियाएं प्रश्नावली के माध्यम से प्राप्त की गई है। चुने गए क्षेत्र है –

- ❑ नव चिन्तन पोषक
- ❑ बौद्धिक योग्यता वृद्धि पोषक
- ❑ स्वतन्त्रता पोषक
- ❑ प्रशंसा पोषक
- ❑ प्रशासन समस्याओं का पोषक

प्रत्येक सत्र एक घंटे का रखा गया और शिक्षकों से स्वतत्र विचार प्रस्तुत करने का अनुरोध किया गया।

विश्लेषण एवं व्याख्या

प्रश्नावली अनुसूची द्वारा प्रदत्त उत्तरों एवं व्यक्तिगत साक्षात्कार के फलस्वरूप निम्न विचार सामने आए :

नव चिन्तन पोषक विचार

नया शिक्षक नए विचारों से परिपूर्ण होता है जिन्हें वह कार्यरूप में परिणत होते हुए देखना चाहता है। वह विद्यालय की प्रत्येक गतिविधि में भाग लेना चाहता है। अधिकांश शिक्षकों का मत है कि उन्हें अपने अधिकारियों से अपेक्षित सहयोग प्राप्त नहीं होता है। शिक्षक की रुचि, योग्यता एवं गुण के आधार पर पक्षपात किया जाता है। कुछ ही शिक्षकों को आगे आने का सुअवसर दिया जाता है जिससे सहयोगी शिक्षकों में वैमनस्य एवं ईर्ष्या की भावना बढ़ती है और मौलिक विचार दबे रह जाते हैं। केवल कार्यक्रम पूरा करने के लिए ही कार्य किया जाता है जिससे अध्यापक विज्ञान मेलों, विज्ञान क्लबों, आदि सरीखे शैक्षिक कार्यो में रुचि कम लेते हैं। विरोध करने पर सुनने को मिलता है "नया नया आया है, जल्दी ही रास्ते पर आ जाएगा।"

बौद्धिक योग्यता पोषक विचार

"दीप से दीप जले" कहावत प्रसिद्ध है। दूसरे दीप को जलाने के लिए स्वयं दीप को भी जलना होता है। इस सन्दर्भ में शिक्षक को अपनी शैक्षिक योग्यता मे वृद्धि करनी होगी जिससे स्वयं का भी भविष्य सुधरे और शिक्षा की गुणवत्ता में सुधार हो।

परन्तु होता इसके विपरीत ही है। अधिकांश शिक्षको का मता है कि उच्च शिक्षा के द्वार अधिकांश शिक्षकों के लिए बन्द ही रहते हैं, केवल कुछ शिक्षकों को उच्च शिक्षा प्राप्ति का अवसर मिलता है। अधिकारी अपने सम्मुख एक उच्च शिक्षा प्राप्त शिक्षक को किस प्रकार सहन करे। प्रश्नों से ज्ञात हुआ कि अध्यापक के मन में यह भावना रहती है कि "कितना ही पढ़ा लो रहोगे तो प्राइमरी स्कूल टीचर"। क्या ऐसी धारणा से वातावरण में शिक्षा स्तर में सुधार संभव है ? शायद नही।

स्वतंत्रता पोषक विचार

भाषा एवं विचार अभिव्यक्ति की स्वतंत्रता संविधान प्रदत्त मौलिक अधिकार है। परन्तु शिक्षक को अपने अधिकारियों के समक्ष सार्थक विचार प्रस्तुत करने की स्वतत्रता नहीं है। अन्तः सेवा प्रशिक्षण कार्यक्रमों के सन्दर्भ में दिए गए सुझाव शिक्षक के अन्तर्मन में रह जाते हैं। उत्तर मिलता है "ई.बी. पार करनी थी, तुम्हें भेज दिया बस तुम्हारा काम खत्म, यहां तो प्रयोग चलते ही रहते है"।

अधिकांश शिक्षकों का मत है कि पर्यावरण अध्ययन के लिए छात्रों को कक्षा से बाहर ले जाना अनुशासन का प्रश्न है। अतः उन्हें कक्षा में ही रहने देने का निर्देश है। कौन संभालेगा 60 या 70 छात्रों को। कही कुछ हो गया तो। अतः यही हुआ पर्यावरण अध्ययन।

प्रशंसा पोषक विचार

प्रत्येक प्राणी प्रशसा चाहता है – चाहे वह हल्की सी मुस्कुराहट के रूप में ही क्यों न हो। छोटे बच्चे की पीठ थपथपा दें – वह दुगने उत्साह से कार्य करने लगता है, परन्तु शिक्षक के भाग्य में यह भी नहीं। अधिकांश शिक्षकों का मत है कि कुछ ही शिक्षक अधिकारियों की "प्रशंसा" प्राप्त कर पाते हैं। इसके लिए यदि कहीं त्रुटि हो जाए तो दण्ड तुरन्त मिलेगा। पुरस्कार कदाचित ही प्राप्त हो। ऐसे ही वातावरण से ट्रेनिंग मे आए शिक्षकों ने बताया – ट्रेनिंग में भेजा – चले आए, हमारा और क्या होना है सर ! कुछ साल रह गए हैं कट ही जाएंगे। अतः प्रश्नो के माध्यम से ज्ञात हुआ कि अध्यापकों में प्रशंसा प्राप्त करने की भावना रहती है। प्रशंसा से हम अध्यापकों को अधिक कार्यशील बना सकते हैं।

प्रशासन समस्या पोषक विचार

कोई भी व्यक्ति अपने कार्यो का सम्पादन तभी कर

सकता है, जबकि उसके पास कम से कम समस्याएं हों और उनका समाधान समय-समय पर हो जाए अथवा उनके समाधान के लिए उचित आश्वासन ही मिलता रहे। परन्तु अनगिनत समस्याओं से ग्रस्त शिक्षक से आशा की जाती है कि वह राष्ट्र निर्माता के गौरवपूर्ण दायित्व को शान्त रहकर निभाता रहे। क्या यह सम्भव है ? अन्यथा छात्रों के साथ अन्याय होगा – और यह हो रहा है। किसी भी कार्यालय में जाने पर शिक्षक अपनी समस्याओं के समाधान के लिए घूमते नज़र आएंगे। अधिकाश शिक्षकों का मत है कि उन्हें वेतन, भविष्य निधि भुगतान, स्थानान्तरण आदि के लिए "परेशान" होना पड़ता है। क्या ऐसे मन से दुखी शिक्षक छात्र के सर्वांगीण विकास में सहायक सिद्ध हो सकेंगे।

शैक्षिक अनुपयोग

शिक्षा के क्षेत्र में कार्यरत प्रत्येक व्यक्ति से निवेदन है कि वह शिक्षकों के प्रति अपने दृष्टिकोण में परिवर्तन करें, जिससे राष्ट्रीय शिक्षा नीति द्वारा लिया गया संकल्प पूर्ण हो और राष्ट्र निर्माता शिक्षक अपने छात्रों के सर्वांगीण विकास में सर्वथा सहायक सिद्ध हों।

- शिक्षकों को अपनी रुचि, योग्यता एवं अनुभव के आधार पर विभिन्न क्रियाकलापों में निष्पक्ष रूप से भाग लेने दिया जाए जिससे वे अपने सृजनात्मक विचारों को क्रियान्वित होते हुए देख सकें।
- शिक्षक को "दीप से दीप जले" के सन्दर्भ में अपनी शैक्षिक योग्यता में वृद्धि करने का पूर्ण अवसर प्रदान किया जाए जिससे वे छात्रों का उचित मार्ग दर्शन कर सकें।
- शिक्षक को इतनी "स्वतंत्रता" अवश्य दें कि वे बन्धन मुक्त होकर अपनी समस्याएं अधिकारियों के सम्मुख प्रस्तुत कर सकें और पठन-पाठन प्रक्रिया में सुरुचिपूर्ण वातावरण उत्पन्न हो।
- शिक्षकों को अपने "बड़ों" की ओर से प्रशंसा का एक शब्द ही पर्याप्त है जो उनके अन्दर उत्साह, स्फूर्ति का संचार कर दे। प्रशंसनीय कार्य करने पर पुरस्कार अधिक से अधिक मिलना चाहिए और गलत काम करने पर दण्ड कम से कम।
- शिक्षकों की मूलभूत समस्याओं (वेतन, भविष्य निधि भुगतान, पेंशन, ग्रेच्युटी, स्थानान्तरण) का निराकरण शीघ्रातिशीघ्र हो। ❑❑

वरिष्ठ प्रवक्ता
मं. शि. एवं प्र. संस्थान
मोतीबाग, नई दिल्ली

फुर्सत में बच्चे क्या पढ़ें?

एन.सी.ई.आर.टी. का नाम आदर्श पाठ्यपुस्तक-प्रकाशन से जुड़ा हुआ है। लेकिन एन.सी.ई.आर.टी ने बच्चों और किशारो के लिए पाठ्यपुस्तकों के अलावा भी विविध प्रकार का साहित्य प्रकाशित किया है। यह साहित्य उच्च स्तर का तो है ही, साथ ही इन किताबों का दाम भी काफ़ी कम है। विविध अवसरो पर बच्चो को उपहार देने के लिए, आप अच्छी और कम दाम वाली पुस्तको की तलाश में होगे। नीचे हम अपनी कुछ हिन्दी पुस्तको की सूची दे रहे हैं। तो लीजिए चुनिए अपनी मनपसंद किताबें .

जीवनियाँ

पुस्तक	मूल्य
पुरुषोत्तमदास टडन	14.10
प्रेमचद	5 85
एनी बेसेंट	7.00
ऐसे थे राजेन्द्र बाबू	9.55
कर्मयोगी तिलक	7.00
तेनजिग नोरगे	4.90
नेहरू — नए भारत के निर्माता	9.50
बाबा आम्टे	4.55
बिरसा मुडा	7 50
विश्वेश्वरय्या	7.55
सरहदी गाधी खान अब्दुल गफ्फ़ार खॉ	5.50
सरोजिनी नायडू	6.50
अहिल्या बाई	6.00
ज्योतिबा फुले	6.50
लौह पुरुष सरदार वल्लभभाई पटेल	8 00

प्रदेश परिचय

पुस्तक	मूल्य
आओ, तमिलनाडु चले	8.50
हमारा अरुणाचल	8.00
हमारा गुजरात	12.00

विज्ञान-साहित्य

पुस्तक	मूल्य
उत्कृष्ट गैसे	5 50
कम्प्यूटर से बातचीत	10 00
कहानी शल्य चिकित्सा की	20 00
चमत्कार परमाणु ऊर्जा के	11.60
जैव तकनीक (बायो टैक्नोलॉजी)	6.50
चिकित्सा विज्ञान की कहानियाँ	9.60
तत्व नए पुराने	8.00
ब्रह्माड का रहस्य	13.50
तारो की जीवन गाथा	9.50
नापो तो सच पता चले	7.50
नाभिकीय विकिरण के अनुप्रयोग	8 00
फ़ोनोग्राफ से स्टीरियो तक	10.3 5
मानव मशीन से परिचय	10.25
मिट्टी का मोल	7.45
उपग्रह उवाच	14.50
समुद्र कुबेर का एक भडार	20.00

विविध

पुस्तक	मूल्य
मिल कर सोचे	14.00
बैकिग की मनोहारिता	1.25
युवा संसद का सचालन	14.50

हमने अंग्रेज़ी और उर्दू मे भी इस तरह का बाल-साहित्य प्रकाशित किया है।
विस्तृत सूची-पत्र और अन्य जानकारी के लिए सम्पर्क कीजिए :

मुख्य व्यापार प्रबंधक
प्रकाशन प्रभाग
राष्ट्रीय शैक्षिक अनुसंधान और प्रशिक्षण परिषद्
श्री अरविंद मार्ग, नई दिल्ली 110016

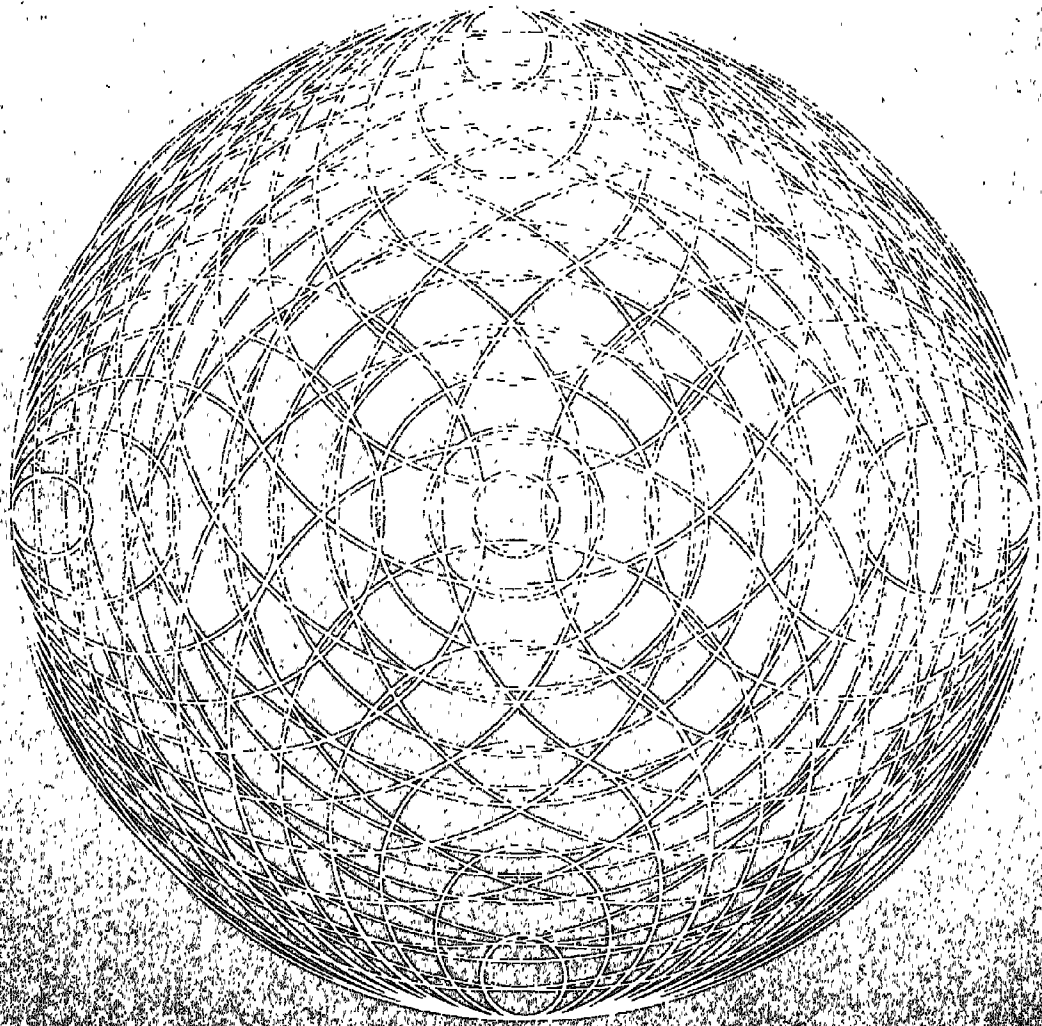
टेलेक्स . 31-73024 टेलिफोन 6851070, 662708

विज्ञान संबंधित मूल्य

जिज्ञासा, ज्ञान-पिपासा, वस्तुनिष्ठता, ईमानदारी व सच्चाई, प्रश्न करने का साहस, क्रमबद्ध तर्क, प्रमाण/सत्यापन के पश्चात स्वीकृति, खुला दिमाग, पूर्णता प्राप्त करने की अभिलाषा तथा मिलजुल कर कार्य करने की भावना आदि विज्ञान संबंधी कुछ आधारभूत मूल्य हैं। इन मूल्यों द्वारा विज्ञान के उन प्रक्रमों को अभिलक्षणित किया जाता है, जो प्रकृति एवं उसकी अपघटनाओं से संबंधित सत्य के अन्वेषण में सहायता प्रदान करते हैं। विज्ञान का उद्देश्य विभिन्न वस्तुओं एवं अपघटनाओं की व्याख्या करना है। अतः विज्ञान सीखने एवं उसका अभ्यास करने के लिए –

* **अपने परिवेश की वस्तुओं तथा घटनाओं के प्रति जिज्ञासु बनें।**
* **प्रचलित विश्वासों एवं मान्यताओं पर प्रश्नचिह्न लगाने का साहस करें।**
* **"क्या", "कैसे" तथा "क्यों" में प्रश्न करें एवं सूक्ष्म प्रेक्षणों, प्रयोगों, परामर्शों, चर्चाओं व तर्कों द्वारा अपना उत्तर प्राप्त करें।**
* **प्रयोगशाला में अथवा उसके बाहर प्राप्त अपने प्रेक्षणों एवं प्रायोगिक परिणामों को सच्चाईपूर्वक लिखें।**
* **आवश्यकता पड़ने पर, प्रयोगों की पुनरावृत्ति सावधानीपूर्वक एवं क्रमबद्ध तरीके से करें, किन्तु किसी भी परिस्थिति में अपने परिणामों में हेरफेर न करें।**
* **तथ्यों, विचार-बुद्धि एवं तर्कों द्वारा अपना मार्गदर्शन करें, पूर्वाग्रहों से ग्रस्त न हों।**
* **अनवरत एवं समर्पित कार्य के द्वारा नई खोजों एवं नए आविष्कारों के लिए उत्कट अभिलाषा रखें।**

राष्ट्रीय शैक्षिक अनुसंधान और प्रशिक्षण परिषद्

NATIONAL COUNCIL OF EDUCATIONAL RESEARCH AND TRAINING

ately intense liking [(1) is often used loosely as a syn for **imagination** or for **day-dreaming** Cf **fantasy**, an older form of the same word] **fanciful**[a] (1), **fancied**[a] (1, 2), **fancy**[v] — Fr (1) *fantaisie*, Ger *Phantasie*

fantasm, phantasm = a vivid subjective visual representation of a form or a person or of what is assumed to be a disembodied spirit [When the representation is regarded as the product of subjective processes, it is called a **fantasm** or **phantasm**, when regarded as the product of perception, an **apparition**]

fantastic = weird, whimsical, or distorted in shape [Improperly used as adj for **fancy** and **fantasy**]

fantasy, phantasy = (*hist*) syn for **imagination** [Gk **phantasia** = capacity to form images (Lat **imaginatio**) The process terminates in (*a*) images derived from sense perception, memory images, or (*b*) abnormal images, called **phantasms** or **fantasms** (hallucinations) The popular term **fancy** confuses these two meanings Cf **autistic thinking**]

farad = a unit of electrical capacity, the capacity of a condenser which retains one coulomb of charge with one volt difference of potential [The **microfarad** (= 0 000,001 farad) is the most frequently used unit]

faradic current = the alternating electrical current produced by the secondary winding of an induction coil

far-sight, farsightedness = a condition of the organ of vision, characterized by ability to see distant objects clearly, and inability to obtain clear and distinct pictures of nearby objects [The condition may be either **hyperopic** or **presbyopic**, distg fr **near-sight** or **myopia**] **farsighted**[a] (used more often in a figurative sense, to characterize individuals who foresee the probable course of distant events) — Ger *Weitsichtigkeit*

fashion = a phase of custom or convention which develops rather quickly and disappears after a time [**fashion** applies esp to the display or use of material objects, rather than to acts, **fad** and **craze** are temporary variants of **fashion** Distg fr **custom** (in the broader sense), which is more stable and persistent] — Fr *mode, vogue*, Ger *Mode*

fatalism = the doctrine which holds that all the acts of man are inevitably predestined [Strictly, syn w **determinism**, but commonly used with the connotation that environmental influence is negligible Contr w free-will doctrine (**libertarianism**)]

father complex, see **Electra complex**.

fatigue = 1 decreased ability of performance on the part of an organism, or of some member or muscle, resulting from prolonged work, 2 a specific feeling or sensation, experienced after prolonged work [**fatigue** (1) is classed as (*a*) **mental**, resulting from prolonged fixation of attention or work upon a problem, etc , (*b*) **muscular**, resulting from prolonged exercise of some group of the larger skeletal muscles, (*c*) **sensory**, or (*d*) **reflex** fatigue (2) is often differentiated into corresponding classes Syn (2) **weariness**] **fatigue**[v], **fatigued**[a] — Ger *Ermüdung*

fatigue/auditory = decrease in the sensitivity of the ear due to prolonged acoustic stimulation

fatigue/nerve = 1 reduced capacity of the neuron for conduction, as a result of repeated stimulation, 2 (*pop*) **neurasthenia** [Fatigued nerve shows a more or less prolonged refractory phase]

fatigue/retinal (or visual) = depletion of the capacity of the retina to respond to light and color stimuli [Postulated to explain negative after-images, successive contrast, etc]

fatiguability = the relative rate at which fatigue increases in an organ, or in an individual, as compared with other organs or individuals [Cf **fatigue**] — Ger *Ermüdbarkeit*

faucial reflex = contraction of the fauces, gagging, or vomiting, elicited by irritation of the fauces, or passage from mouth to pharynx [Mediated by IX and X cranial nerves and oblongata]

fault = 1 a defect in apparatus, method, or procedure, which interferes with the reliability or validity of the results, 2 a minor moral defect [Distg (1) fr **fallacy** = a defect in reasoning] **faulty**[a] (1) — Ger *Fehler*

Faxensyndrom = a term used by Bleuler to denote a prison psychosis characterized by irrelevant ("clownish") behavior [It suggests malingering, but is actually dissociated from the remainder of the personality]

fear = emotional behavior characterized by a feeling-tone of unpleasantness, and accompanied by activity of the sympathetic nervous system together with various types of postural and motor reactions, e g trembling, prostration, flight, convulsive seizures [Often grouped with **anger** and **love** as the three primitive emotions] — Fr *peur, frayeur*, Ger *Furcht*

feature profile test = a type of combination test in which the task is to assemble seven pieces to complete the profile (three pieces) and the ear (four pieces) of a man's head [Cf **formboard test**]

febrile delirium, febrile psychosis = mental symptoms, usually of a delirious character, especially associated with a rise in body temperature

feces[pl], **faeces** = the solid or relatively solid unassimilable material excreted from the body after the process of digestion **fecal**[a]

Fechner-Helmholtz law, see **coefficient law**

Fechner weight holders = an apparatus devised by G T Fechner for the presentation of stimuli in his lifted weight experiments, each holder was a square-bottomed receptacle covered with a lid and lifted by a handle in the act of comparison, holders for standard- and comparison-weights were identical except for a small differential weight fastened to the lid of the latter — Fr *soutiens de poids de F*

Fechner's law = a formulation of the relation between changes of stimulus intensity and changes in sensation, proposed by G T Fechner as an extension of **Weber's law** and expressed as follows "A change in sensation occurs when the stimulus is increased or decreased by a given proportion of itself, this proportion being constant for any given sense" [The law may be expressed in other ways "A sensation varies as the logarithm of the stimulus", "Sensation varies arithmetically as the stimulus varies in geometrical ratio" The formula is $S = K \log R$, where S is the magnitude of sensory intensity measured from the **absolute threshold** as zero, R is the magnitude of the stimulus measured with the **absolute threshold** as a unit, and K is an appropriate constant It is the principal experimental result in Fechner's Elemente der

Psychophysik (1860), a book which established the methods for the measurement of sensation and thus contributed greatly to the founding of experimental psychology **Fechner's law** is frequently incorrectly called **Weber's law**, and is now often referred to as the **Weber-Fechner law** The law has provoked much controversy and is now conceded to be only an approximation to the truth]

Fechner's paradox = in binocularly viewing, e g a landscape, while one eye is covered with a moderately light smoked glass, the total impression becomes *brighter* the instant that eye is completely occluded [The paradox consists in the fact that a brighter impression is thus received when part of the light is withdrawn]

Fechner's shadow experiment = an experimental demonstration of Weber's law a pole casts two separate shadows on a screen, these shadows are caused to vary independently by altering the intensity of the lights or their distance from the screen, the difference thresholds between the two shadows are thus determined at various levels of screen brightness (Fechner, 1860)

fecundity = physiological capacity of a given organism to participate in reproduction [Often used as syn for **fertility**, = (strictly) the number of actual offspring attributable to the given organism Contr w **sterility** (or **infecundity**)] **fecund**^{a}

feeblemindedness = 1 a generic term covering all grades of mental inferiority or backwardness, 2 (British usage) the type of mental deficiency nearest to the normal, known in America as **moron** [Cf **idiot, imbecile, moron**] **feebleminded**$^{a\ np}$ — Fr *faiblesse mentale*, Ger *Schwachsinn*

feel^{vt} = to explore actively through the sense of touch [Syn **palp**^{v}, **palpete**] **feel**^{n} Fr *palper, tâter*

feel^{vi}, see **feeling**

feeling^{n} = 1 an affective experience, esp of pleasantness or of unpleasantness, 2 emotional or interoceptive experience (w qualifying adj), 3 (*hist*) sensation, an indefinite sensation, or any conscious state, 4 (*hist* and *pop*) cutaneous experience, esp touch, 5 (*pop*) an opinion based on admittedly indefinite grounds [In the earlier psychology, often used as (4) syn for *touch*, one of the 5 senses, including also (1) the indefinite bodily states (pleasure, pain, etc) James used the term to denote any immediate experience or conscious phenomenon Ward made the distinction between **feeling** and **sensation** on the basis that the former is known as pert to the knowing subject, the latter to the object known At present the term and its associate forms are confined by most writers to uses (1) and (2), except to **feel**^{v}, which retains the tactual meaning Syn (1, 2) **affection, affective experience**, for **feeling**^{a}, the syns **affective** and **hedonic** are much used Syn (4) **feel**^{n} Cf **feeling tone**] **feel**^{v} (in all meanings), **feeling**^{a} = pert to **feeling**, **felt**^{a} = pert to the arousing of **feeling** — Fr (1) *affection*, (2, 3) *sentiment*, Ger *Gefuhl*

feeling/esthetic = the affective tone of pleasantness or unpleasantness which is the core of esthetic experience — Fr *sentiment esthetique*

feeling of activity, see **activity/feeling of**

feeling of reality, of unreality, see **reality/feeling of, unreality/feeling of** — Fr *sentiment de realite*

feeling tone = 1 a sensation or affective datum which accompanies other sensations, 2 an affective attribute of sensation [Opinion differs as to whether it is an attribute or an independent datum, in either view, feeling tones are distinguished as **pleasant** and **unpleasant**] — Fr *ton affectif*, Ger *Gefuhlston*

feigning = a behavior attitude which reproduces the characteristic posture and signs of a totally different organic condition [E g death-feigning, fear-feigning Cf **tonic immobility**] — Fr *feinte, simulation*

fellatio = the performance of the sex act by the introduction of the penis into the oral cavity

felt, see **feeling**

female^{n} = an organism which produces ova or egg-cells [Biol symbol ♀ Contr w **male**, which produces sperm cells Cf **sex**] **female**^{a} = intrinsically characteristic of females or of the female sex (e g female voice), **feminine**^{a} = associated with the female sex (e g feminine attire) — Fr *femelle, feminin*^{a}, Ger *Weibchen*^{a}

feminine, see **female**

feminism = 1 a social movement for the advancement of the female sex, esp in the economic and political spheres, 2 (*biol*) the possession by certain male individuals of feminine traits to a marked degree [Cf **effemination**] **feminist**$^{r\,p}$ (1)

feminization = the structural, functional, and behavioristic changes which follow successful implantation of ovarian tissue into a castrate male animal, involving regression of male characteristics together with the development of female qualities [In psychology sometimes used to characterize personality change from so-called masculine attitudes to so-called feminine attitudes as a result of social or other factors]

femur = the thigh bone (Accent **fee-**) **femora**^{pl}, **femoral**^{a} (accent **fem-**) — Ger *Schenkel*

fenestra cochleae (or **rotunda**) see **window/round**

fenestra vestibuli (or **ovalis**) see **window/oval**

Féré phenomenon, see **galvanic skin response**

ferment, see **enzyme**

Ferree rotary campimeter = an apparatus operated on the principle of a fixed field of stimulation and a movable fixation point, used to explore the sensitivity of the retina in the entire visual field up to an angle of 92° from the center, the fixated stimulus is attached to a special radial arm which ends in a branch at right angles to the plane of the campimeter screen, an electric color-mixer is attached to this radial arm to determine the color seen in peripheral vision, eight radial arms, including the special stimulus arm, are attached to a collar that may be rotated about an opening through which the peripheral stimulus is seen, and serve as guides for the adjustment of the stimulus [A modification permits the use of spectroscopic colors]

Ferrier's experiment = an experiment devised by David Ferrier to demonstrate that sensations do not arise from efferent nerve impulses, it consisted in resting a finger upon a trigger and imagining vividly the act of pressing it without actually moving the finger, the result showed that the sensations attributed to the efferent impulses are actually kinesthetic sensations from neighboring muscles, from breathing, etc [Cf **innervation feelings**]

fertility = 1 the characteristic of an organism of having produced offspring, 2 the characteristic of having produced numerous offspring [Degrees of **fertility** of different species or members of a given species admit of numerical treatment Syn **fecundity,** which (strictly) means capacity for reproduction Contr w **infertility,** or (in man) **childlessness**] **fertile**[a] — Ger *Fruchtbarkeit*

fertilization = the process whereby an ovum, or egg, is caused to begin its development into an independent organism [The process consists normally in the union of a **sperm** and an **ovum** cell, but artificially certain ova may be fertilized without such union] **fertilize**[v]

fetish, fetich = (*anthrop*) an object to which some magical potency or *mana* is attributed, usually by way of protecting the owner or wearer [No exact opposite in use] — Fr *fétiche*

fetishism = (*pathol*) a pathological condition characterized by an erotic attachment to certain parts of the body, or (more generally) to certain articles of clothing worn by the object of attachment, usually resulting in sexual gratification **fetish**[n] = the object of attachment

fetus, foetus = an embryo in its more advanced stages of development [Used both loosely and technically — the latter for the human embryo after the second month] **fetal (foetal)**[a]

fiat = a distinctive determinative experience which sometimes attends an act of volition or choice between alternatives (James)

fiber, fibre = a single nerve axon with its collaterals [A **nerve** consists of a collection (or bundles) of nerve **fibers**] **fibered (fibral)**[a] — Ger *Faser*

fibril = one of the threads or filaments sometimes present within a neuron **fibrils (fibrillae)**[pl], **fibrillar**[a]

fibrous layer = the 9th stratum of the retina from without inward, which consists of the axons of the ganglion cells of the 8th layer passing across the surface of the retina to collect and form the **optic nerve** [Syn **layer of nerve fibers** See Table XI] — Fr *couche fibreuse*, Ger *Faserschicht*

fiction = 1 an imagined condition of affairs proved or believed to be contrary to reality, 2 (*indiv psychol*) an imaginary social situation conceived by an individual as a means of gratifying the will to power, and accepted as a reality, in particular, the make-believe of a neurotic by which a simulated illness is utilized to command the world about him [Improperly used for **artifact** = a human construction or device] **fictitious**[a] — Ger (1) *Erdichtung*

field investigation = (*soc*) the investigation of social conditions, heredity, etc by interviews and observations — Fr *investigation relative au milieu*

field of consciousness, see **consciousness/field of**

field observation, field studies = the observation of animal behavior in the natural habitat [Contr w **experimentation** = observation of behavior under set laboratory conditions] — Fr *observations ethologiques*

field of touch, see **touch/field of** — Fr *champ tactile*

field of vision, see **visual field** — Fr *champ visuel.*

field/tubular = constriction of the visual field, either hysterical or structural — Fr *champ tubulaire*

fifth (*mus*), see **interval** and Table VII

fighting instinct, see **pugnacity**

figure = (*psychol*) a group of impressions derived from a single sense, which are perceived as a unit or object [Contr w **ground** = the unfocused or unattended to impressions surrounding the figure, **figure** is used non-technically to denote a numeral, a drawing, a symbolic example, **figurative**[a] in latter sense only] **figured**[a]

figure-ground = a general characteristic of perception in accordance with which segregation of the total field results in such a way that different parts are endowed with different degrees of shape and articulation, the highly-shaped parts being the **figures,** the less shaped ones the **ground** [As a rule the organization does not possess such a simple duality of characters (viz one ground with one or several figures upon it), but what is ground for one figure will be a figure on another ground] — Fr *figure et fond*

filial = pert to the offspring [Contr w **parental**]

filial generations = the successive generations from a given parent or pair [The immediate offspring are called **first filial generation** (F_1), the offspring of the latter, **second filial generation** (F_2), etc]

filial regression/law of = a principle formulated by Francis Galton, which states that the quantitative value of characters in the offspring tend, as a whole, to regress or revert toward the average value represented by the general group to which the parents belong [Thus the offspring of two very tall or two very short parents would be more nearly of average height than the parents themselves] — Fr *l de régression filiale*, Ger *Rückschlagsgesetz*

filiform script = a term applied to written words which end in a sinuous dash with no recognizable letters [Literally, *threadlike*]

filiform papilla, see **papilla**

fillet = 1 (*neurol*) a band of afferent fibers which arise in the cuneate and gracilis nuclei, ascend in the medulla just behind the pyramidal tracts, and cross in the sensory decussation, 2 (*esth*) a narrow moulding, usually on a column, having the appearance of a narrow band like that used to confine the hair — Ger *Schleife*

film color = a color which presents a filmy or non-substantial **mode of appearance** to visual introspection, e g the colors seen in the field of a spectroscope — Fr *couleur pelliculaire*, Ger *Flächenfarbe*

filum terminale = a thread-like tubular extension of the pia mater at the caudal end of the spinal cord, it contains remnants of the cord substance

final = 1 pert to the last term of a series, 2 syn for **purposive, telic**

final cause = that state of affairs for the sake of attaining which, action is undertaken

final common path = motor neurons, or neurons at a higher level upon which nerve impulses from several other neurons converge (Sherrington) [Cf **end-path**] — Fr *voie terminale commune*

finalism = 1 the doctrine of purposiveness, 2 (*psychoan , indiv psychol*) the interpretation of life processes in terms of their goals [Syn (1) **teleology**]

finality, see **purpose, finalism.**

finger spelling = a method of language communication whereby words are spelled on the fingers, a given position of the fingers indicating one letter of the alphabet [There are two commonly-used manual alphabets, one making use of both hands and the other of one hand only] — Fr *epellation (langage) digitale*, Ger *Fingersprache*

finite = having measurable limits [Two orders which are not finite are the infinitely small and the infinitely great Contr w **infinite** = unlimited or possessing a value too great to be measured Cf **infinity**]

fire-worship = a historic type of religion whose central object of adoration is fire [Directed either toward fire itself, or toward a deity representing the principle of fire] — Fr *culte du feu*, Ger *Feuerverehrung*, *Feueranbetung*

fission = a method of reproduction found in nearly all unicellular and in a few lower multicellular species, in which the parent divides into two parts, each of which grows into a full-sized organism resembling it [Cf **reproduction**] — Fr *scissiparite*

fissure = a deep depression or furrow in the surface of the bra[illegible]
ing gyri [illegible]
Syn **sulcu**[illegible]
Spalt

fit^n = a succession of convulsions — Fr *attaque*

fitness = (*biol*) adaptation to the conditions of the environment, i e capability of an organism, due to its structural organization, to meet the general conditions of life [Cf **fittest/survival of the**] **fit**^{a}, **fitted**^{a}, **the fit**^{np} — Fr *apte*^{a}

fitness/feeling of = a feeling or judgment (*a*) of the ethical worth of a certain course of conduct, or (*b*) of the harmony of a given object or composition with esthetic standards — Fr *sentiment de la congruence*

fittest/survival of the = a phrase originated by Herbert Spencer to designate the principle that those individual organisms or species whose structural organization is such as to best meet the general conditions of life will, on the average, live or endure longest and propagate most extensively [Cf **natural selection, struggle for existence**] — Fr *survivance des plus aptes*

fix^v, **fixate**^{v}, see **fixation** (1), (2)

fixation = 1 (*learning*) the process of establishing or automatizing a motor habit, or of memorizing some given material, usually measured by the decrease (*a*) in time of performance, or (*b*) in number of accessory movements or errors, 2 (*vis*) the directing and focusing of the eye, or both eyes upon a certain point in space in such a way that an image of this point falls upon the fovea or foveas, extended also to the focusing of the eye or eyes upon a moving point in pursuit movement, 3 (*psychoan*) an arrest or attachment of one of the component impulses of the libido to an early stage of psychosexual development, usually pregenital [Contr (1) w **acquisition**] **fixate**^{v} (2), **fix**^{v} (1, 2)

fixation/binocular = the focusing of both eyes upon the same point in space [Syn **binocular focusing** (ambig)]

fixation-line, line of fixation = the straight line which joins the object of fixation and the center of rotation of the eyeball — Ger *Fixationslinie*

fixation pause = a momentary cessation of eye-movement, in which the image of the object is at rest and in focus upon corresponding points of the retinas [In reading and in other rapid eye-work, these pauses ordinarily endure only a fraction of a second]

fixation-point, point of fixation = 1 the point in space upon which one or both eyes are fixated, 2 the point on the retina upon which the image of the fixated point or object falls, 3 (*psychoan*) an emotional attachment to one of the pregenital stages of libido development [Cf **fixation**] — Ger (1, 2) *Blickpunkt*, *Fixationspunkt*

fixation response (or **reflex**) = the response of the eye in turning to fixate an extrafoveal light stimulus [Mediated by the optic tracts and oculomotor nerves Syn **eye reaction** (ambig)]

fixation response time = the interval between the onset of an extrafoveal stimulus and the beginning of movement of the eye to fixate that stimulus [Photographic records by the Dodge corneal reflection method show an approximate mean of 180 σ The time is modified through practice under specific conditions Syn **eye reaction time** (ambig)] — Fr *temps de réaction de fixation de l'oeil*

fixation time, fixation pause duration = the time which elapses in visual fixation, from the completion of one saccadic eye-movement to the beginning of the next, in reading and other quick visual work [Contr w **saccadic time** Cf **fixation pause**]

fixed idea = an idea or trend of thought which tends to recur and dominate the mental life of a given individual [It may be symptomatic of certain psychoneuroses, e g **obsessional neuroses**] — Fr *idée fixe*

flagellata, flagellates = an order of unicellular organisms which move by the intermittent lashing of one or more whip-like projections, or flagella, e g euglena

flagellation = the practice of whipping, esp in order to arouse emotional experience and induce attitudes of penitence, remorse, exaltation, mysticism, or sex excitement [Often practiced at the instigation of the individual himself and sometimes practiced on himself] — Ger *Geisselung*

flagellum = a lash-like structure projecting from certain unicellular organisms and from certain cells in multicellular organisms [Cf **flagellate**]

flat^n = (*mus*) 1 a tone whose pitch is slightly lower than a given standard, 2 a tone which is a semitone lower than some natural tone, or the sign (♭) used to indicate this lowering of pitch [Contr w **sharp**] **flat**^{a} — Fr (1) *ton grave(bas)*, (2) *bemol*

flatworms, platyhelminthes = an invertebrate phylum of soft-bodied, bilaterally symmetrical, usually flattened animals, such as **planarians, flukes,** and **tapeworms** [Formerly grouped with **annulata** and others as a single phylum of **vermes**, or worms **planaria** form a typical genus of flatworms] — Fr *ver plat*

flavor = a mingled but unitary experience which includes sensations of taste, smell, and pressure, and often sensations of warmth or cold or mild pain [Best used technically to denote the olfactory experiences conditioned by food in the mouth or pharynx] — Fr *saveur, goût*

flexibilitas cerea = a symptom of schizophrenia and occasionally of hysteria, in which an im-

pressed attitude or posture of the patient is abnormally retained

flexibility = 1 capacity (of a bodily member, etc) to bend, 2 (*fig*) the fact that a given term, theory, etc may be extended to any one of a group of related meanings, 3 the capacity of an individual to alter his mental attitude or adjust himself readily to changing situations [Syn (3) **adaptability** (prefd)] **flexible**[a]

flexion = the bending in of a jointed member of the body [Contr w **extension** = the straightening of the member by a reverse movement] **flex**[v] — Fr *flexion*

flexion reflex = withdrawal of the lower limb at knee, hip, and ankle, usually upon nociceptive stimulation [Mediated by 2d lumbar to 3d sacral segments of the cord Cf **nociceptive reflex, mass reflex**] — Fr *phénomène des raccourcisseurs*

flexor muscle, flexor = a muscle whose function is to withdraw or flex some member of the body [They are largely the protective muscles of the body, being prepotent over extensors when nociceptive stimuli are operating Cf **flexion** Contr w **extensor** Cf **antagonists**] — Fr *muscle fléchisseur*

flexure = the bending of an organ or of the body, esp of the medullary tube, during embryonic growth [The specific regions of bending are identified by local names, e g cervical flexure, sigmoid flexure, etc] — Fr *courbure*

flicker, flicker phenomenon = (*vis*) a rapid periodic change perceived in a visual impression, due to a corresponding rapid periodic change in the intensity or some other character of the stimulus [**flicker** disappears when the frequency of the stimulus-change exceeds a rate called the **critical flicker frequency**, which is about 25 to 30 cycles per second when each cycle consists of a moderately bright and a wholly dark half-period, the critical rate is somewhat higher at higher intensity-levels and lower for lower intensities, the rate is lowered with decrease in the intensity-difference between parts of the period] — Fr *papillotement*, Ger *Flimmern*

flicker/auditory = an auditory experience caused by intermittent stimulation, the beginning and end of each stimulus being sharply defined [The phenomenon may be produced by a method similar to that for **visual flicker**, by rotating a sector between the ear and the sound source Syn **tonal intermittence** Distg fr **pulsation**, in which the intensity of stimulation varies gradually]

flicker/chromatic = a pulsating or flicker phenomenon in the visual field due to differences in either hue or saturation, or both, between stimuli of equal brilliance which are alternately applied to the same retinal area [Distg fr **flicker** in general, which may involve also pulsations in brilliance]

flicker photometry = a method of photometry in which two different-colored and congruent light-fields are alternately presented to the eye at a suitable rate, the fields are considered equal in brightness when the appearance of flicker is at a minimum — Fr *photométrie de papillotement*, Ger *Flimmerphotometrie*

flight = a mode of response characterized by rapid locomotion away from the source of stimulation [Often accompanied by **fear**] — Fr *fuite*, Ger *Flucht*

flight of colors = the succession of colors which occurs in the visual after-image — Fr *fuite des couleurs*

flight of ideas = a rapid succession of superficially related or unrelated ideas, either in thought, or more esp in speech — Fr *fuite des idees*, Ger *Ideenflucht*

flirtation = (*pop*) incipient or superficially conditioned love-making, engaged in for the enjoyment of the experience itself, without serious intention [Cf **coquetry**] — Fr *flirt*, Ger *Liebelei*

flowery, see **fragrant** — Fr *floral*, Ger *blumig*

fluctuation of attention, see **attention/fluctuation of**

fluctuations = (*biol*) variations, or differences in some character exhibited by the members of a species, whose values are distributed uniformly about the mean value of the group [Often applied to purely somatic, non-hereditary variations, contr w true **mutations**, which are due to discrete, transmissible changes in the germ plasm By some writers, **fluctuations** is used to designate continuous variations which are assumed to be to a certain extent hereditary] — Ger *Schwankungen*

fluctuations of sampling = the changes in value which a statistical constant takes when determined from successive (but otherwise similar) samples [Cf **sampling**] — Fr *f d'echantillonnage*

fluid/cerebrospinal, see **cerebrospinal fluid** — Fr *liquide cephalo-rachidien*

fluttering hearts = an illusion observed with colored figures (e g of red, heart-shaped components against a blue background), which are moved to and fro, the illusion consisting in the apparent springing of the figures suddenly from side to side — Fr *illusion des coeurs flottants*

flux (*vis*), see **radiant flux, luminous flux**

flux/sound energy, see **sound energy flux**

focal, see **focus**

focal distance = in a lens or any focusing optical system, the distance between a focus and the nodal point corresponding to the last optical surface left by the rays

focal length = a characteristic of a lens or other focusing optical system, being the focal distance for parallel entering rays — Fr *longueur focale*, Ger *Brennweite*

focal symptoms = symptoms which pertain to the focus or principal seat of a disease [Contr w **general symptoms**, which are not localized]

focus = the point to which rays of light from a given point or point-source are made to converge, or from which they are made to diverge by means of a lens or optical system **foci**[pl], **focal**[a] — Fr *foyer*, Ger *Brennpunkt*

focus of attention, see **attention/focus of**

focusing, focussing = 1 (*opt*) adjustment of an optical system by moving the parts lengthwise along the axis, in order that the light-rays may be brought to convergence and an image formed at a desired place, 2 (*vis*) the regulation of curvature of the eye-lens by the action of the ciliary muscle so that a clear image falls upon the retina [Syn (2) **accommodation** (prefd)]

focusing/binocular, see **fixation/binocular**

foetus, see **fetus**

foliate papilla, see **papilla**

folie = insanity, mental disorder, psychosis [A French term used with qualifying words to denote certain types of mental disorder, e g *folie a deux*, *folie du doute*]

folium = a folding or convolution of the surface of the cerebellum [Cf **convolution**] **folia**^{pl}

folk psychology = the investigation of the mental processes peculiar to any race or people, esp the study of primitive races [Applied either to the study of single races or to the comparative study of races Sometimes confused with **social psychology** = the study of group phenomena] — Fr *psych des peuples*, Ger *Volkerpsychologie*

folklore = primitive and traditional customs, rites, legends, etc originating in an early stage of culture, which survive in the more advanced stages of social evolution of any given race or folk — Ger *Volkskunde*

folkways = the conventional or traditional patterns of behavior common to the members of a particular group [Syn **conventions** Distg (first by Sumner) fr **mores** = those standards of conduct which have received the conscious approval of the members of the group Departure from the mores is disapproved and frequently punished, departure from the folkways merely denotes lack of sophistication]

fontanel, fontanelle = an unossified area of the cranium of the fetus of the young infant

food-response, food-getting behavior = the complex behavior of an organism in the presence of food stimuli, which normally results in the ingestion of the food substance [Syn **alimentive instinct**] — Fr *comportement envers l'aliment*

foot-candle = a unit of **illumination,** equal to the density of luminous flux upon a surface placed at right angles to the light-rays at a distance of 1 foot from a light-source of 1 candlepower [It is the unit of illumination commonly used by engineers in the United States and England]

foot-lambert = a unit of **brightness,** equal to the uniform brightness of a perfectly diffusing surface which emits or reflects 1 **lumen** per square foot

footrule/Spearman, see **Spearman footrule.**

foot-writing (foot-drawing) = writing (drawing) in which the writing (drawing) implement is held between the toes [The implement is held in place either by muscular contractions or by mechanical devices Cf **mouth-writing**] — Fr *ecriture au pied*

force = 1 (*phys*) that which produces a change of motion or a change from the state of rest in masses or elements, 2 (*psychol*) any condition or set of conditions which are effective in bringing about changes or maintaining equilibrium among mental or social phenomena, 3 (*biol*) any condition, whether of heredity or of environment, which enters as a factor in the development of the organism, or in the evolution of species [The c g s unit of **force** (1) is the **dyne,** i e the force which, acting on a gram for a second, imparts to it a velocity of 1 cm per sec Cf **energy**] — Ger *Kraft*

forced movements = 1 (*physiol*) asymmetrical movements of an organism induced by injury to one hemisphere of the brain or analogous controlling organ, 2 (*comp psy*) asymmetrical movements induced by unequal stimulation of the two sides of an organism [(2) is regarded by Loeb as a general explanation of tropistic behavior] — Fr *mouvements forcés*

forced resonance (or **vibration**), see **resonance**

forebrain = the extreme (cephalad) division of the brain, consisting of the end-brain or telencephalon, and the interbrain or diencephalon [Syn **prosencephalon,** cf **brain**] — Fr *cerveau antérieur*, Ger *Vorderhirn*

foreconscious, see **preconscious**

fore-exercise = 1 in work-experiments, repeated reaction of the subject to the experimental situation prior to introduction of the experimental variable, the purpose being to establish a base line against which to measure the effect of the variable, or to discover variations in the base line from one experimental session to another, 2 in tests, a brief preliminary period of practice upon material similar to that in the test, interpolated between the instructions and the test proper, in order to prevent misunderstanding, excitement, or timidity [Syn (1, 2) **practice exercise,** (1) **preliminary period,** (2) **sample exercise**] — Fr *pré-exercice*

foreperiod = 1 the initial period in an experience, esp in connection with psychological experiments, 2 in reaction time experiments the interval between the *ready* signal and the stimulus [Cf **midperiod**] — Fr *période préliminaire*, Ger *Vorperiode*

forepleasure = (*psychoan*) sexual pleasure experienced through excitation of an erogenous zone [Contr w **end-pleasure**] — Ger *Vorlust*

foresight = mental picturing of events as likely to occur, particularly of situations which may affect the individual himself [Syn **forethought** Cf **expectation, anticipation**] — Fr *prévision, prévoyance*, Ger *Voraussicht*

forethought = a thought (or thinking) of some event as one that will probably occur [Usually applied to the more developed forms of anticipatory thinking Syn **foresight**] — Fr *prescience*

forget = loss of capacity to recall an event on appropriate occasion

forgetfulness = a tendency to forget readily [Syn **obliviscence,** used more technically to denote a low degree of amnesia] — Ger *Vergesslichkeit*

forgetting^{n} = the loss, temporary or permanent, of an earlier acquisition [Applies to (*a*) failure to recall an item once known, or (*b*) loss of ability to perform an act formerly learned Cf **forgetting rate, obliviscence**] **forget**^{v}

forgetting rate = the speed with which material, once learned, is forgotten during a period of no recall or review [The rate is usually measured by the **saving method** in relearning or by the **recall method,** and is displayed graphically in certain of its aspects by means of a **curve of forgetting** (or **of retention**) First investigated by Ebbinghaus and published in 1885] — Fr *rapidité de l'évanouissement du souvenir, rapidite de l'oubli*

fork, see **tuning fork**

form = 1 the colligation or organization of data or elements into a unitary whole or system, such that definite relations (spatial, temporal, logical, etc) subsist between them, 2 (*math*) the algebraic or geometric mold or pattern wherein the variables in a given problem are permitted to find expression [Syn **shape** (*geom*), **structure** (*biol*), **configuration** or **Gestalt** (*psychol*), **form** is regarded by Gestalt psychologists as a fundamental property of organized wholes, it

depends not only upon the structure of the object or event under consideration, but also upon its ground or setting It is defined by points of reference in both, but not by reduction to elements and subsistent relations In older logic contr w **matter** or **material** = the constituent elements, also contr w **content** = the qualitative character of the system] **formal**[a] — Ger *Gestalt, Anordnung, Form, Struktur*

form distortion = any change in the image of an object, due to the spherical nature of the retina or to imperfections of the eye, which gives the image a character different from that of the object itself

form psychology, see **Gestalt theory**

form-quality = a positive content of consciousness which appears, according to von Ehrenfels, in complexes over and above their separable elements (sensations), and is responsible for the peculiar properties attaching to such complexes as wholes [Distg fr **Gestalt**] — Ger *Gestaltqualität*

form/visual = the total impression produced by the arrangement of the contour lines of an object or drawing [Cf **Gestalt**]

formal = pert to form, i e not concerned with the character of the subject matter [**formal logic** (e g) concerns itself with the forms of the given propositions and of their relations to each other, without considering whether these propositions are true] **formally**[a] (= logically)

formal cause = 1 (*hist*) those properties or arrangements of parts in the antecedents to which the specific properties or form of the consequent are traceable, 2 the idea or plan which guides activity [Cf **cause**] — Fr *cause formelle*

formal discipline, see **discipline/formal**

formal exercises = (*learning*) drills based on one type of material or situation, used with a view to develop some general mental process or faculty or a character trait [E g specific exercises in memorizing series of digits as a means of improving memory in general, specific exercises in tolerating fatigue or standing on tiptoes as a means of cultivating will-power Cf **formal discipline**]

formalism = (*esth*) theories of art which view beauty as a matter of form rather than of content [Contr w **expression**]

formant = a contribution to the timbre of vowel sounds made by the buccal resonance cavities [According to L Hermann **formants** correspond to a tonal region rather than to a fixed frequency, and they remain relatively constant whether the fundamental be spoken or sung, **formants** may also contribute to the timbre of certain wind instruments]

formboard = a board with depressions of various shapes, into which solid blocks of corresponding shapes are to be inserted [Used to test perception of form or shape, esp in mentally deficient individuals Originally devised by Seguin Standardized by Norsworthy and later by Goddard Various other patterns of formboard have since been devised]

formboard test = a type of test in which the task is to place blocks of different shapes, sizes, colors, or designs in appropriate insets in a board or other background, the score being expressed in terms of time, errors, or both

formication = a diffuse organic or tactual sensation as of ants or other insects crawling on the skin [Sometimes considered as a form of **paresthesia**] **formicate**[v]

formula = a concise (generally abstract) statement of fact, whether of principle, structure, method, or relationship, conventionally accepted or intended for acceptance as a fixed statement [E g laws, principles, mathematical equations, prescribed legal procedures, articles of faith or dogma, fixed ceremonial statements (ritual) Scientific formulations are often expressed in mathematical or analogous symbols] **formulas**[pl] (verbal), **formulae**[pl] (symbolic) — Ger *Formel*

formulation = the expression of a principle in words or symbols, whether mathematical or not

fornix = a system of nerve fibers, which arise in the basal region of the brain, and form topographically a cephalocaudal tract between the optic thalamus and hippocampus major, and the uncinate gyrus — Ger *Gewölbe*

fortuitous = pert to chance [Usually implies absence of known or intended antecedents Applied in statistics to extreme values, improperly used as syn for **random**]

forward reference = the directional character of growth processes whereby the growth of organisms is accounted for in terms of a remote future stage or a remote end

fortuitous variation, see **chance variation**

fossa Sylvii, see **Sylvian fissure**

fossae/nasal, see **nasal cavity.**

foul, see **putrid**

founding process = (*Gestalt*) a term used by Meinong to denote an intellectual activity by which conscious contents are consolidated to form objects of higher order termed **complexes** [Cf **complex** (1)] — Fr *processus constitutif*, Ger *Produktionsvorgang* (*Benussi*)

Fourier's law = a mathematical principle developed by Fourier, according to which any complex periodic vibration may be resolved into a harmonic series of sine (or cosine) functions [For acoustics, any complex sound may be represented as the sum of a series of pure tones, whose frequencies increase in the ratio of the natural numbers 1, 2, 3, 4, etc Such resolution of a complex vibration into single components is called **Fourier analysis**, and the components obtained comprise a **Fourier series**]

fourth (*mus*), see **interval** and Table VII — Fr *quart*, Ger *Quart*

fovea, fovea centralis = a small depression in the **macula lutea** or yellow spot, in the central region of the retina [In the human eye the receptors in the fovea are exclusively cones very closely packed together, the other layers of the retina are as if pushed aside, hence the depression, the fovea is a horizontal ellipse of about 52′ × 35′, it is the area of sharpest vision and the center of fixation] — Ger *Netzhautgrube*

fractionation = 1 (*introsp*) a piecemeal method of describing a conscious experience, in which the situation is repeated exactly (or approximately so) a number of times with varied instructions, so that the observer may confine himself to a limited section each time and thus finally produce a relatively complete description, 2 (*statist*) division of the entire group of experimental data into small groups, for separate mathematical treatment [Watt of the Würzburg school was responsible for meaning (1)]

fragrant = 1 a quality of olfactory sensation of which violet, hyacinth, and heliotrope are typical examples, 2 all odors which are distinctly pleasant [Syn (1) **flowery** Cf **odor.**] — Ger *duftig*

frankness = the personal characteristic or trait of dealing with others openly and without reserve or inhibition, esp in speech **frank**[a] — Fr *franchise*, Ger *Aufrichtigkeit, Offenheit*

Fraunhofer's lines = certain dark lines seen in the solar spectrum, due to the absorption of light from the denser central portion of the sun while passing through its atmosphere of gases and vapors [The position of the most prominent lines was determined by Fraunhofer in 1814 Over 14 000 lines have been noted in the solar spectrum but only 10 are prominent, the latter are designated by letters Cf **spectral line** and Table XIII]

freak, see **sport**

free association = 1 an association of ideas formed in the absence of limiting instruction or predisposing conditions, 2 one of the fundamental methods used in psychoanalytic technique, in which associations of ideas are allowed to arise spontaneously without conscious restraint or selective criticism [Applied (1) generally to association experiments or tests in which the subject is not limited by previous instructions to some specific kind of relation, applicable also to trains of thought not guided by their relation to a problem Contr (1) w **controlled association**] — Fr *a libre*

free nerve endings = afferent neurons which terminate in non-medullated arborizations in the skin [They have been assumed to be pain receptors] — Fr *terminaisons nerveuses libres intra-épidermiques*

free-will doctrine = the theory that the course of thought and volition is or may be directed by the individual himself, regardless of external influences and (according to some) regardless of internal or mental constitution [A form of **indeterminism** Syn **libertarianism** Contr w **mental determinism,** which assumes that thought and volition are conditioned by universal principles] **libertarian**[a] — Fr *doctrine de la volonté libre*, Ger *Willensfreiheitslehre*

freedom/consciousness of = the conscious experience that our decisions are or may be made by ourselves, regardless of external influences and mental predisposition — Fr *conscience de liberté*, Ger *Bewusstsein der Freiheit*

freedom/ethical = the ability of an individual to make decisions and to act according to standards of value in conduct or principles of justice and fairness accepted by him [Cf **free-will doctrine**] — Fr *liberté morale*

Freeman time-unit, F T U , F U = a standard unit of time between exposures in the cinematography of the writing movement equal to 0 04 sec [Term suggested by R Saudek, and named for F N Freeman, the pioneer in this field] — Fr *unité temporelle de F*

frenzy = a violent emotional disturbance approaching utter disorganization [Syn **delirious rage**] — Ger *Raserei*

frequency = 1 (*phys*) the number of cycles per second of a wave or other periodic phenomenon, or more generally, the reciprocal of the period, 2 (*statist*) the number of cases in which a given value or score occurs in a class (i e class frequency), or in a sample (i e frequency of sample or population of sample) [**cumulative frequencies** = a succession of sums of **frequencies** (2) in a series of data arranged in order of magnitude Cf **frequency curve, frequency surface**]

frequency curve, frequency distribution, see **frequency polygon** — Ger *Häufigkeitskurve*

frequency/law of = a principle advanced as explanatory of learning, according to which those responses which have been repeated many times will tend to be further repeated, rather than those which have occurred less often [This law is formulated in more general terms than the **law of exercise** and lacks the neurological assumptions of the latter Syn **law of repetition**] — Fr *l de fréquence, l de répétition*

frequency polygon = (*statist*) the graphic representation of a frequency distribution by means of a closed figure formed by a series of straight lines [In constructing a frequency polygon, equal distances are laid off on the base line (X axis) to represent the various class intervals A point is located midway in each interval at a height which represents (on the Y axis) the number of cases lying within this interval These points are joined to give the graph] — Fr *polygone de fréquence*

frequency surface = (*statist*) the surface of the three dimensional solid which is formed when the heights (frequencies) in the cells (or compartments) of a scatter diagram, or correlation table, are joined [Cf **frequency polygon**]

frequency table = (*statist*) a tabulation of data showing the number of cases found at each successive score, grade, age, or other class interval — Fr *barème de fréquence*

Freudism, Freudianism, see **psychoanalysis**

friendship = a social relation between two individuals, characterized by mutual attraction and cooperation, in which the factor of sexual attraction is not present or is not emphasized — Fr *amitié*, Ger *Freundschaft*

fright = an acute manifestation of fear, which usually develops suddenly, is not restrained, and is short lived [Syn **terror,** which emphasizes the emotional rather than the motor characteristics] — Fr *épouvante, terreur*, Ger *Schreck*

frigidity = 1 decrease or absence of normal sexual desire, 2 decrease or absence of the normal sensation complex in coitus [Used esp with reference to women]

frigorific nerve = any nerve-fiber whose excitation is accompanied by either a conscious experience of cold or a reaction typical for cold stimuli [The normal or adequate stimulus is a temperature of 1/8° C (or more) lower than the body or skin temperature at the place of stimulation, with some apparent exceptions]

fringe = (*psychol*) the unobtrusive but functionally important feelings of meaning and relationship which accompany the perception or image of an object, e g the suggestion of meaning carried by a heard or seen word (James) [Often used as syn for **margin** (of consciousness) or **marginal consciousness**] — Fr *frange*, Ger *Franse*

front tap reflex = contraction of the gastrocnemius muscle when skin above the muscles on the anterior part of the leg is struck, while the leg is in extension and the foot extended by pressure upon the sole [Mediated by 3d lumbar to 2d sacral segments of the cord An indication of increased postural reflexes] — Fr *réflexe du choc sur la face antérieure de la jambe*

frontal = pert to the forehead, or parallel to the forehead

frontal lobe = that part of either cerebral hemisphere which in man lies above the Sylvian and in front of the central or Rolandic fissure, i e which is nearest the forehead — Ger *Stirnlappen*

frontal plane = in bilaterally symmetrical animals any plane which is perpendicular to the dorsoventral axis

frotteur = one who practices masturbatory rubbing

fruity = a quality of olfactory sensations of which pineapple is a typical example [A class of Henning's Cf **odor, aromatic, ethereal**] — Ger *fruchtig*

fugue = 1 (*pathol*) a term applied to episodes of non-remembered activity of considerable duration, usually involving disappearance from accustomed haunts [A hysterical symptom]

fugue = 2 (*mus*) a form of musical composition in which several voices combine in stating and developing the theme, the theme is announced by one voice, instrumental or vocal, and then answered by a contrasting voice [Lat **fuga,** a flight]

Fullerton-Cattell law = a formulation devised by G S Fullerton and J McK Cattell as a substitute for Weber's law, it states that the error of observation and least noticeable difference are proportional to the square root of the stimulus

function[n] = 1 (*biol psychol*) a process in operation, e g the function of the thyroid gland, of locomotion, of growth, etc , 2 operation or activity in general, 3 the use of a structure or activity, i e its role in biological and social adjustments, 4 (*math*) a variable quantity, whose value in any case is determined by the value of one or more other variables, 5 (*hist*) syn for **faculty.** [Where a mathematical function (1) is expressed as an equation, y = f (x), x is the independent and y the dependent variable Contr (1, 3) w **structure.** The confusion of (3) with (2) and (4) has caused misunderstandings Cf **operate**] **function**[v], **operate**[v], **functionate**[v] (not recommended), **functional**[a]

functional analysis, see **analysis/functional**

functional deafness, see **deafness**

functional disorders = 1 disorders without known alteration of structure, 2 disorders of function by or through other functions [Distg fr **organic disorders,** in which structural changes are found]

functional psychology = 1 a systematic interpretation of mental phenomena which regards them as activities or processes rather than experiences, 2 the standpoint which emphasizes the biological role of mental phenomena, i e their utility to the organism in its adjustment to the environment [The German psychology of *Funktion* (e g Stumpf) represents (1), American functional psychology (e g J R Angell) represents (2), and (2) is apt to imply (1) Syn (1) **act psychology** (2), (2) sometimes **dynamic psychology**]

functional psychosis = mental disorder formulated essentially in behavior terms, without reference to structural or physiological factors, e g **paranoia.**

functional selection = a mode of biological selection, whose distinctive feature is the survival of certain functions or motor capacities which are more useful to the individual or social group, and the disappearance of other functions that are not so useful

functional unity = the degree of correlation between various pairs of measures necessary to the postulation of a power or ability common to the efficiencies measured [Syn **unitary function**]

functionalism = the doctrine that an essential feature of all psychological processes is the part which they play in the adaptive functions of the organism [Developed under J Dewey at Chicago, most clearly and forcefully advocated by J R Angell in 1903–06]

fundament, see **Anlage**

fundaments = the mental elements between which a relation mediates

fundamental formula = the simplest mathematical expression of Weber's law, viz dS = c(dR/R) — Ger *Fundamentalformel*

fundamental tone, fundamental = the lowest tone in a compound tone or simple clang — Ger *Grundton*

funding process, see **founding process**

fundus oculi, see **eyeground**

fungiform papilla, see **papilla**

furor = an acute excitement of the nature of anger and violence — Ger *Wutanfall*

fusiform gyrus = the convolution on the mesial surface of the cerebral hemisphere near the base, between the collateral and inferior temporal gyri

fusion = 1 the combination of the effects of two or more stimuli in any given sense-mode, so as to yield a single, unanalyzed sensation, 2 an unanalyzed sensation, perception, or other datum, due to a combination of stimulations from various senses, with or without memory and other elements, 3 that sensory experience which is the undifferentiated product of contiguous multiple stimulation [This term is preferable to **blending** as applied to the operation, the product of fusion is a **blend** Contr w **colligation.**] — Ger *Verschmelzung*

fusion/binaural = the combination of the effect of stimuli presented to the two ears into a single auditory impression [When two stimuli are presented separately to the ears, as *c* to the right and *e* to the left, there is **dichotic** fusion When both ears receive the double stimulus (as under normal conditions) there is **diotic** fusion]

fusion/binocular = the combination of two images, falling upon the two retinas, into a single visual impression [The images may be alike, or may differ to some degree in form and color]

fusion/tonal = (*psychol*) the effect produced when two or more tones are sounding simultaneously [Certain combinations are unitary, smooth, agreeable, other combinations are lacking in unity, rough, disagreeable, the former are said to have a relatively *higher degree* of fusion than the latter Cf **interval.**]

G

g factor, general factor = a psychoneural element, or determiner, according to the two-factor theory of intelligence, which is fundamental to all correlated abilities for the same individual, as

distg fr the (specific) **s factors** which vary in different activities (Spearman) [Cf **s factor, two-factor theory**]

Galton bar = an instrument devised by F Galton, for determining the threshold of difference for visual linear distance, the typical model consists of a wooden stick one meter long, with four flat sides about 25 mm wide, the side nearest the observer being plain, and the rear side marked in mm , there are 3 movable slides, of which the central one shows a thin vertical black wire, the two lateral slides being also black but broader, the slides are adjusted to give two apparently equal linear distances on the bar, or to determine just noticeable differences

Galton's laws, see **ancestral inheritance**, and **filial regression**

Galton whistle = an apparatus devised by F Galton for the production of tones of very high frequency, it consists of a very small single pipe whose length may be varied by means of a screw piston, the tone is made by pressing a hand bulb or by compressed air [Commonly used for determining the highest audible pitch The width of the pipe makes necessary a correction in the theoretic pitch as determined by the length] — Fr *sifflet de G* , Ger *Galtonpfeife*

galvanic current = a steady direct current [Originally applied to currents obtained from galvanic batteries Contr w **faradic current**] — Ger *galvanischer Strom*

galvanic nystagmus, see **nystagmus**

galvanic skin response (or **reflex**) = 1 decreased apparent resistance of the skin due to physiological activity under control of the autonomic nervous system, following sensory or ideational stimulation, 2 increase in the apparent electromotive force of the skin similar to (1) [Abbrev G S R (or P G R) (1) often called *Féré phenomenon*, (2) also called **Tarchanoff phenomenon** Both (1) and (2) are believed to be essentially sweat-gland phenomena associated with the mechanism of body temperature control Under certain conditions circulatory and trophic influences are also important factors Either (1) or (2) may be demonstrated by means of a **galvanometer** and recorded by a **photokymograph.** The record is a wave-like curve having a latent period of 3–7 seconds and a duration of 3–15 seconds Syn **psychogalvanic reflex, galvanic reaction, galvanic reflex, orectic reflex, general autonomic reflex**] — Fr *réaction galvanique de la peau, réflexe psychogalvanique*

galvanism = 1 (*med*) the use of a direct, unidirectional continuous electric current for therapeutic purposes, 2 (*phys*) the investigation of electricity produced by chemical action, i e galvanic electricity, or direct current

galvanometer = a class of instruments designed to measure the strength of electric currents [The principal types used in psychological experimentation are (1) **string galvanometer** (Einthoven), consisting essentially of an extremely fine metallic thread supported between the poles of a powerful electromagnet, (2) **moving coil**, (*a*) **pointer type** consisting of a pointer placed over a scale attached to a coil of very fine wire which is supported in an electromagnetic field, (*b*) **mirror type,** consisting of a reflecting mirror attached to a moving coil in an electromagnetic field, (*c*) **ballistic type,** any undamped moving coil galvanometer] **galvanometric**[a]

galvanotropism, galvanotaxis = a simple orienting response, either positive or negative, to electrical stimulation [Cf **tropism, taxis**] (Accent **-not-, -tax-**) **galvanotropic**[a], **(-tactic**[a]**)**

game = a form of **play** which is governed by definite rules, and usually involves a competition between individuals or groups, with some definite objective [The success of one individual or group, measured by attainment of a goal or in some numerical score, is called *winning the game* Distg fr **play**, in which one or more individuals may be involved and competition may be absent] — Fr *jeu*, Ger *Spiel*

gamete = a cell which combines with another cell to form a zygote, which latter is capable of developing into a complete organism [**gametes** are usually (but not always) sexually differentiated Cf **zygote**]

gametogenesis = the cytologic processes involved in the development of the male and female sex cells or gametes [Cf **spermatogenesis, oogenesis**]

gamma movement, see **apparent (motion or) movement**

gamogenesis = reproduction which involves the union of two gametes [Distg fr **fission, budding,** and **sporulation** Cf **reproduction.**]

gang = a group of individuals banded together for a common interest, more esp for illegal or socially disapproved purposes — Fr *bande* Ger *Bande*

gangliated nerve = a nerve on some part of which there is an enlargement containing cell bodies, the axons of which run in the nerve

ganglioblast = a neuron of the spinal or extra-axial ganglia in the embryo [Cf **gangliocyte**]

gangliocyte = a neuron of the spinal or extra-axial ganglia

ganglion = 1 a cluster of nerve cells lying outside the brain and spinal cord, e g in the sympathetic system, 2 a mass of cells within the brain, e g basal ganglia [The latter usage has been criticized] **ganglionic**[a] — Ger *Nervenknoten, Nervenhügel*

ganglion cells/layer of = the 8th stratum of the retina from without inward, it contains the cell-bodies of the third set of neurons in the visual path or the ganglion cells whose axons eventually form the **optic nerve** [Syn **vesicular layer** See Table XI] — Fr *couche de cellules ganglionnaires*

ganglioplexus = a loosely aggregated ganglion embedded in a meshwork of nerve fibers

ganjah, see **Cannabis indica**

Ganser's syndrome = a symptom of hysteria and simulation which consists in the patient's giving absurd random answers, usually of the nature of simulation [E g "snow is green," "a horse has 5 legs"]

gap/tonal, see **tonal gap** — Fr *lacune tonale*

Gasserian ganglion = the ganglion of the sensory root of the Vth cranial nerve

gastraea theory = the theory, advanced by Haeckel, that the multicellular animals are descended from an ancestor, the gastraea, resembling the gastrula stage which occurs in early embryonic development

gastric = pert to or located in the stomach

gastrin = a hormone produced in the pyloric mucous membrane of the stomach and probably acting most prominently upon the glands of the

fundus [There remains some doubt as to whether this is a specific hormone of the gastric mucosa, extracts of many tissues produce the same effect]

gastrocolic reflex = a peristaltic wave in the colon caused by introduction of food into the empty stomach [Mediated by autonomic arcs through thoracic segments of the spinal cord]

gastro-ileac reflex = relaxation of the ileocecal valve, caused by pressure of food in stomach [Mediated by autonomic arcs through thoracic segments of the spinal cord]

gastrula = a two-layered stage of early embryonic development which follows the blastula stage [In typical cases it resembles a hollow cup Cf **blastula**]

Gaussian curve, see **normal curve of distribution**

Gegenstandstheorie = a branch of science originated by Meinong, designed to investigate the properties and relations of objects as such, which the other sciences, particularly psychology, have neglected, it postulates that objects are divided into real, not-real, ideal, and other types, depending upon the kind of mental activity by which they are mediated [Lit *theory of objects*]

gemmation = a mode of nonsexual reproduction in which the new organism starts as a **gemma** or bud protruding from the body of the parent organism and later breaks off [Syn **budding**]

gemmule = 1 (*hist*) an ultramicroscopic particle assumed by Darwin to be given off at times by each cell in the body and to serve as the basis for the reproduction of similar cells in the offspring, 2 a **gemma** or bud [Cf **gemmation**]

Gemüt, Gemütsbewegung = a German term covering the affective or affective-conative processes or their underlying and accompanying conditions

ge[illegible] nouns [illegible] tended [illegible] [The adjectives **masculine** and **feminine** apply to gender, rather than sex]

gene = a factor in the germ cells which is involved in the production of a hereditary character [Commonly supposed to be located in a chromosome] (1 syll)

gene mutation = a discrete change in a gene, or hereditary factor, which causes a stable germinal variation

genealogy = the investigation of lines of ancestral ascent [Used technically to denote a branch of **genetics**.]

general = pert or applying to all or most members of a given class of beings, things, actions, etc , or pervading an entire organism, etc [E g **general term, general activity.** Distg fr **universal**, which implies entire absence of exceptions] — Ger *allgemein*

general ability = 1 the capacity of an individual to cope successfully with a variety of problems in different fields of endeavor, 2 an average of a very large and inclusive range of abilities, 3 in Spearman's factor theory, syn w the **g factor** [Distg (3) fr **general factor** in that it is one particular general factor Cf **ability, general factor**] — Fr *habileté (capacité) générale*

general ability tests = mental tests designed to measure all-round intellectual capacity, as distg fr **special ability tests.** [E g the Binet-Simon scale, the Army Alpha tests, and other general intelligence tests]

general concept, see **concept** — Ger *Allgemeinbegriff*

general consciousness = the experiences which are common to two or more individuals, usually to all members of a given social group — Ger *Gesamtbewusstsein*

general factor, see **g factor**

general idea = an idea or concept which includes the likenesses and excludes the differences common to a number of individual or particular ideas [A special form of abstract idea] — Ger *Allgemeinbegriff, Allgemeinvorstellung*

general image, see **image/general**

general intelligence = 1 the capacity and ability of a human or subhuman organism to respond adaptively to new situations on the basis of past experience, 2 ability to select the good from the bad, the true from the false, independently, in a wide variety of endeavors (Roback) [Cf **general ability**]

general norms = average scores according to age or grade, which are obtained by means of **mental** or **educational tests** based upon a supposedly random sampling of school children, and which presumably represent the attainment of the entire population

general paralysis = a special (parenchymatous) invasion of the brain by syphilitic disease [Syn **general paresis**]

general psychology = the branch of psychology which seeks to discover what is true of individuals in general rather than of one individual or class of individuals (e g animals, children, abnormal persons) in distinction from others [Contr w **individual psychology**]

general will = 1 the course of action determined upon by a given social group, and representing the decisions of most of its members, 2 an assumed entity or group phenomenon distinct from the individual wills of the community, but of similar tenets [Usually restricted to human psychology Syn **social will**] — Fr *volonté générale*

generalization = the mental process of forming a general idea or a judgment applicable to an entire class of data, on the basis of a limited number of specific instances [Cf **general idea**]

generalizing = 1 (*introsp*) the process of perceiving or conceiving a general characteristic or fact or meaning in single or in complex situations or things, 2 (*beh*) responding to the common aspects (from any point of view) of the specific elements in a complex situation [Cf **perception, conception, insight, meaning**] **generalize**[v]

generation = 1 the act of procreating or the production of a new individual, 2 the offspring of a pair of parents, 3 the average length of life between birth and the beginning of reproduction in a given species **generate**[v] (1), **generative**[a] (1), **generational**[a] (2, 3) — Ger (1) *Zeugung*

generation/spontaneous = the production of organisms from non-living matter, i e their production without parents

generative function = 1 the entire series of operations involved in the bringing into being of a new organism, in so far as these operations are activities of the parent organism or organisms, 2 any simple sort of operation included

in this series (e g impregnation, ovulation, parturition) [Syn **reproductive function, reproduction** (pref'd), **sexual functions** should be used only in reference to the distinctive role of either sex in reproduction]

generative sensations, see **genital sensations**

generator, generating tone = one of the two or more tones which when sounded together produce a **combination tone**

generic = pert to a **genus** [Contr w **specific**]

generic image, see **image/general** — Fr *image composée*

genesis = the origin or first steps in the formation of any thing [Cf **ontogenesis, phylogenesis** The combining form **-genetic** (= of origins) should be distg fr **-genic** (= of classes or species), but the two are used interchangeably] **genetic**[a] — Ger *Entstehung*

genetic method = the method of investigation which seeks to trace the historic course of changes, esp in **development** and **evolution**

genetic psychology = the systematic study of mental phenomena and behavior by the genetic method, i e in terms of the origin and historic unfolding of mental life and responsive activity in the individual, or in the organic series [Contr w **analytic psychology**] — Ger *Entwicklungspsychologie*

genetic theory = the theory of organic (and mental) evolution

genetic theory of vision, see **Ladd-Franklin theory**

genetics = the branch of biology which investigates heredity, variation, and evolution — Ger *Vererbungswissenschaft*

geniculate body/lateral = a swelling on the rear of the **thalamus** toward the outer (right or left) side [Syn **external g b**] — Fr *corps genouillé latéral*, Ger *äusserer Kniehöcker*

geniculate body/medial = a swelling on the rear end of the **thalamus** between the **lateral geniculate** and **pulvinar bodies** [Syn **internal g b**] — Fr *corps genouillé médial*, Ger *innerer Kniehöcker*

genital = pert to the reproductive organs of an animal

genital character = the relatively adult type of character, conceived (as an inference from psychoanalytic observations) to result from the fusion of the partial erotic drives (oral, anal, urethral) under the primacy of the genital-erotic impulses

genital primacy = (*psychoan*) the final stage of genital organization, in which the component instincts have developed to the function of reproduction — Fr *primauté genitale*, Ger *Genitalprimat*

genital sensations = the sensations which ensue upon stimulation of the reproductive organs [Syn **generative sensations** (indefinite), **sex** (or **sexual**) **sensations**, which applies strictly to the distinctive genital sensations in each sex]

genital zones = the external genitalia and adjacent areas of the skin which are susceptible to erogenous stimulation

genius = 1 very superior mental ability, esp superior power of invention or origination of any kind, or of execution of some special form, such as music, painting, or mathematics, 2 a person endowed with these characteristics [Usually implies hereditary derivation It has no special technical meaning, but has occasionally been defined as equivalent to an intelligence quotient (IQ) of 140 or above] — Fr *genie*, Ger (1) *Genie*

gens = (*anthrop*) a line of human descent through the father [Contr w **clan** = through the mother, cf **sib**]

genus = 1 (*logic*) a class considered as embracing certain subclasses or species, 2 (*biol*) a group of closely related species constituting the elements of the larger group above it known as family [Contr (1) w **species** = any one of the subordinated classes In logic the genus-species relation is applied to any class and immediately subordinate class In biology the two terms have a fixed position in the hierarchical grouping Cf **classification/zoological**] **genera**[pl], **generic**[a], **-genic** — Fr *genre*, Ger (2) *Gattung*

geometrical illusions = misinterpretation of simple straight and curve-line figures [Cf **illusion** See Table XII]

geometric(al) mean = (*math*) the nth root of the product of n numbers [E g $g = \sqrt{ab}$, is the geometrical mean of a and b Distg fr **arithmetic (al) mean**] — Fr *moyenne geometrique*, Ger *geometrisches Mittel*

geotropism, geotaxis = a simple orienting response, either positive or negative, to the lines of force of gravity [In *positive* geotropism (positive geotaxis) the head of the organism turns downward, in *negative* geotropism (negative geotaxis) the head turns upward, or away from the center of the earth Cf **tropism**] (Accent **-ot-**, **-tax-**) **geotropic**[a], **-tactic**[a]

germ = 1 a structure which develops into an organ or an organism, 2 a micro-organism which causes disease, i e a pathogenic micro-organism — Ger *Keim*

germ-cell = a reproductive cell in all stages of its development [Distg fr **gamete**, a mature germ-cell] — Fr *cellule germinale*, Ger *Keimzelle*

germ layer = a layer of cells which is formed early in embryonic development and gives rise to the fundamental organ systems of the body — Fr *couche germinale*

germ-plasm = the substance which carries the hereditary factors of a new organism [It contains the **genes** Contr w **somaplasm**]

germinal factors = the structures and their interrelations in the reproductive cell, which determine the inheritance of characters

germinal selection = a phrase devised by Weismann to designate the hypothetical elimination of the weaker or less adapted vital units in the struggle which he assumed to occur between these units in the germ plasm [The theory of germinal selection, which is essentially an extension of the doctrine of natural selection to the components of the germ plasm, was put forward as a means of accounting for the production of new germinal variations and for the assumed tendency of such variations to continue further in the direction in which they had started]

germinal vesicle = the nucleus of the ovum before the polar bodies are formed

gerontology = the investigation of the characteristics of old age

Gestalt = a term applied to those organized units, both experiential and behavioral, which possess

specific properties not derivable from parts and their relations, as contr w sensation, reflex, and certain other concepts which imply that complexes can be treated as sums of simple units [A German word, frequently used in English literature, sometimes translated **configuration,** pattern, or structure In its wider sense Gestalt means an *integration* of members, as contr w a *summation* of parts Gestalten are classed as (1) *static* or non-temporal = a form or pattern of distribution which does not change in time and whose internal changes leave the whole unchanged, and (2) *dynamic* or temporal = processes which are patterned both in space and time, they are also distinguished with regard to the degree in which their parts are interdependent, as *strong* and *weak* A Gestalt may be either (1) *phenomenal* = a perceptual, imaginal, or thought structure behaving as a unity, i e directly experienced units, (2) *physical* = any physical magnitude or any physical parameter in extension, (3) *physiological* = a functional system within a living organism, i e neural structure, functionally regarded, (4) *logical* = a thought or logical unity having logical necessity Syn **configuration** (liable to confusion)] **Gestalten**[pl]. — Fr *structure, forme*

Gestalt theory = the theory which denies that psychic processes are (or can advantageously be regarded *as if*) composed of elements found in them by analysis, and which affirms that experience presents itself phenomenally in the form of organized structures which, when relatively incomplete, reveal an immanent tendency toward their own completion [As applied to behavior, the theory denies that the response to a situation is compounded of elementary responses to elements of the situation, and regards situation and response as an incomplete structure tending toward an end — state of equilibrium As applied to the brain, the theory renounces the conception of separate paths or arcs, whether native or acquired, and speaks in terms of stress — patterns resolving themselves into states of equilibrium Von Ehrenfels (1890) formulated the doctrine of *Gestaltqualitat* (**form-quality**) which approximates Gestalt theory applied to the perception of spatial and temporal **form** The broad use of the term **Gestalt** derives by extension from this original usage The modern school of Gestalt psychology (Kohler, Koffka, Lewin) comes from Wertheimer (1912), it expressly denies the existence of specific **form-quality**] — Fr *théorie de la forme*

Gestalt(s)qualitat = form-quality, the attribute of having a pattern or configuration

gestation = the process of carrying the embryo in the uterus [Used loosely to denote embryonic development, the period of gestation is the time elapsing between fertilization and birth, whose length differs widely in different species but is fairly constant within a given species, e g elephant 593 days, man 280 days, cat 56 days Syn **pregnancy**] **gestational**[a]

gesture = a movement or position of the hands or other members of the body used in communicating with other beings [Distg fr **manipulation** of objects or other uses of the hands or other members as direct means for altering the environment] — Ger *Gebarde*

gesture language = a system of communication, generally among human beings, through conventional visual symbols which consist in movements or position of the hands or other members of the body [Syn **sign language**] — Ger *Gebardensprache*

ghost = 1 (*anthrop*) a visual appearance attributed to the presence of a disembodied personality, 2 a shadowy semblance of some person or thing [Syn **apparition,** a more technical term] — Fr *fantôme, spectre,* Ger *Gespenst*

ghost theory = a non-technical designation for the theory that religion originated in primitive man's belief in ghosts, or disembodied spirits — Fr *t des fantômes* (*t animiste*)

giant cells/Betz, see **Betz cells**

giddiness, see **dizziness**

gifted = 1 possessing one or more special talents or abilities of a high order, e g in music, painting, mathematics, 2 possessing a very high degree of intellectual brightness [Sometimes stated as an IQ (intelligence quotient) of 140 or above] — Fr *bien doue,* Ger *begabt*

gigantism = an abnormal increase in stature due to hyperactivity of the anterior lobe of the pituitary gland [The term is used technically, while **giant** and **gigantic** are non-technical Syn **acromegaly, Marie's disease, hyperpituitarism** Cf **nanism.**]

girdle sensation = a painful sensation resembling that produced by a tightly drawn belt, which occurs in certain diseases, e g tabes dorsalis [Cf **Hitzig's girdle**] — Fr *douleur en ceinture*

given[n] = the material available to the investigator, upon which his generalizations and explanations are based [Syn **datum, data**[pl] (more commonly used)] — Fr *donnee,* Ger (*das*) *Gegebene*

given[a] = an indefinite qualifier, e g a given individual = a sample individual

gland = any one of a large and heterogeneous class of organs whose function is usually the formation of a specific product which may be (*a*) chemical substances in solution or suspension, or (*b*) cells [**glands** are divided into (*a*) epithelial glands with persistent ducts, producing external secretions (e g sweat glands, pancreas), (*b*) epithelial glands with obliterated ducts, producing internal secretions = endocrine glands (e g anterior pituitary, thyroid), (*c*) epithelioid glands, never having duct or lumen, producing internal secretions (e g adrenal medulla, corpus luteum), (*d*) cytogenic glands, producing cells (e g gonads, lymph nodes, red bone marrow, spleen), (*e*) several gland-like organs without ducts and of lymphoid character (e g thymus gland, tonsils), (*f*) mixed types Cf *ductless glands*] **glandular**[a] — Ger *Druse*

glandular response = a type of response to stimulation, usually mediated by autonomic nerve fibers or chemicals in the blood stream, and characterized by increased or decreased activity of one or more glands [Contr w **muscular response,** in which one or more muscles respond by an increase or decrease in tension]

glass sensation = a subjective visual effect, noted by F Schumann, according to which transparent solids appear different from empty space, i e as if filled by a colorless substance — Fr *s de verre,* Ger *Glasempfindung*

glaucoma = a disease characterized by abnormally high pressure of the fluids within the eyeball, with consequent pain and impairment or loss of vision [It may follow injury to the eye or be due to other local or systemic causes]

glia, see **neuroglia**

glioma = a mass of **gliosis** which, in its pathoclinical aspects, resembles a tumor

gliosis = a diseased condition of the cerebrum, characterized by a localized increase of neuroglia

globus hystericus = (*pathol*) a sensation of contraction of throat or a globular mass rising from the stomach into the esophagus

glossal = pert to or located in the tongue

glossolalia = speech in unknown tongues or in fabricated languages, which occurs in religious ecstasy, psychopathic states, and hypnotic and mediumistic trance [Cf **xenoglossis**]

glossopharyngeal nerve = the 9th cranial nerve, which terminates in the back of the tongue and throat and serves the taste receptors in this region, and also motor functions in the throat

glossophobia, see **lalophobia**

glossosynthesis = the formation of nonsense-words — Ger *Sprachwortheit*

glottis = the opening between the arytenoid cartilages and the vocal bands [Syn **rima glottidis** The opening between the cartilages is known as the *respiratory portion* and that between the cords as the *vocal portion*] — Ger *Stimmritze*

glove anesthesia, see **anesthetic glove**

glow = a mode of appearance (*Erscheinungsweise*) which is characteristically seen in self luminous bodies, e g the appearance of an incandescent lamp filament or a flame [It is usually to be referred to a comparatively small area which presents very high brightness or chromatic purity, at least relatively to the rest of the visual field] — Fr *incandescence*, Ger *Glühen*

glowing color = a color which presents a luminous or glowing *mode of appearance* to visual observation, e g the colors seen in flames, incandescent solids, the enclosing glassware of light fixtures, mercury vapor lamps, etc — Ger *Leuchtfarbe*

gluteal = pert to or located in the buttocks (Accent glu-)

gluteal reflex = contraction of the gluteal muscles following irritation of the overlying skin [Mediated chiefly by 4th to 5th lumbar segments of the cord]

glycogen = a polysaccharid which forms the reserve or storage carbohydrate of the animal body and is found principally in the liver and muscles [Syn **animal starch**]

glycosuria = the presence of glucose in the urine, esp when due to hyperglycemia [Distg fr **glycuresis** = an abnormal increase of sugar in the urine (S R Benedict), esp the presence of minute amounts of reducing carbohydrates in urine without hyperglycemia **alimentary glycosuria** = normal presence of sugar in urine after ingestion of carbohydrates, **emotional glycosuria** = a transitory condition due to hyperglycemia accompanying one of the major emotions, **renal glycosuria** = condition due to a low threshold of the kidneys for blood glucose]

goal = 1 the end-result of any activity of an organism, whether muscular or ideational, individual, or social, as specified or formulated by an observer in advance of the actual attainment, 2 an end-result which an organism strives to attain, 3 (*indiv psychol*) an object or condition towards which an organism strives, referred by the organism to the immediate or remote future but acting in the present time [Syn (2, 3) **end** (less precise) Distg (2, 3) fr **purpose**, which properly denotes the determinant (conscious or unconscious) that guides the organism's activities toward the goal] — Fr *but*, Ger *Ziel*

goblet-profile figure, see **Rubin's goblet-profile figure**

god = (*anthrop*) a personified object of worship [Prefd to syn **deity, divinity**] — Fr *dieu*, Ger *Gott*

golden section = the division of a line or area into two parts, or the relations of the sides of a rectangle, such that the ratio of the smaller to the larger equals the ratio of the larger to the whole [A term used by Adolph Zeising who called attention to the esthetic value of this division, tested experimentally by Fechner Syn **Zeising's principle**] — Fr *section dorée*, Ger *goldener Schnitt*

Golgi apparatus = an intracellular structure, highly variable in appearance [First described by Golgi in the spinal ganglia cells of vertebrates It ranges from a reticular form to discrete particles]

Golgi-Mazzoni corpuscles = a type of capsulated nerve end-organ located in various layers of the dermis [The term originally referred to *tendon spindles*, but was later also applied to bulbs in the *papillary layers*, believed to arouse pressure or cold sensations] (Pron Matz-)

Goll/columns of = the spinobulbar tracts on either side of the posterior median fissure in the spinal cord

gonad = a gland which produces gametes, or sex-cells [A generic name embracing (*a*) **ovary**, which forms female gametes, (*b*) **testis**, which forms male gametes] **gonadal**[a], **gonadial**[a].

goniometer = 1 a platform balance for measuring the tendency to sway in a given direction, the reactor stands upright on the platform as steadily as possible, the deflection when he sways being measured on a scale, 2 a physical instrument for measuring angles

good = 1 characterizing actions which follow moral norms, 2 characterizing actions, means, devices, etc as adapted to the end designed or proposed, 3 adapted to give pleasure, satisfaction, or benefit, 4 valid, effectual, or reliable [(4) is used loosely to express a favorable judgment regarding the value of scientific work or results Contr w **bad**] — Fr *bon*, Ger *gut*

grace = 1 (*esth*) beauty as manifested in certain pleasing postures or movements, or in representations of the human body or natural objects whose contours suggest such postures or movements, 2 (*ethics*) an act of forbearance **graceful**[a] (1), **gracious**[a] (2) — Ger 1 *Anmut*, 2 *Gnade*

gradation methods = a term commonly applied since Fechner to two psychophysical methods of **just noticeable differences** the method of **minimal changes** and method of **mean gradations** [Contr w the **error methods right and wrong cases and average error**]

grade = the position of a given individual, organism, or datum of any sort in a series or scale, in which values, determined on the basis of some character or group of characters are assigned to all the individuals, etc included in the series **grade**[v]. — Fr *degré*, *rang*, Ger *Stufe*

grade norm = a numerical standard of performance, empirically determined, which represents

the central tendency of pupils of a given school grade — Fr *norme de valeur scolaire*

graded approach = the approach to the limen or threshold by a succession of small steps or by continuous change [Syn **gradual approach** (prefd, since it denotes both continuous and discrete succession)] — Fr *rapprochement par degres*

gradient[n] = 1 any magnitude which slopes from a high to a low value by steps or degrees, instead of maintaining a uniform value or varying irregularly (e g pressure gradient, thermal gradient), 2 the rate at which the magnitude rises or falls (e g a gradient of 1 in 100) [Cf **axial gradient.**] — Fr (1) *variation graduelle*, (2) *gradient*, Ger (1) *Gradient*, (2) *Steigung*

gradient/physiological, /pressure, see **physiological gradient,** etc

grand mal = the major epileptic attack, with unconsciousness, biting of tongue, incontinence, and amnesia

grandeur/delusions (or ideas) **of** = exaggerated conceptions of one's own importance, e g the notion that one is of exalted station or has supernatural power [Cf **megalomania**] — Ger *Grossenwahn*

granular layer/inner = the 7th layer in the retina of the human eye [Syn **inner molecular** (or **plexiform** or **reticular**) **layer** See Table XI] — Fr *couche granulaire interne*

granular layer/outer = the 5th layer in the retina of the human eye [Syn **outer molecular** (or **plexiform,** or **reticular**) **layer** See Table XI] — Fr *couche granulaire externe*

granular pressure = a specific pressure quality which results from moderately intense, blunt stimulation (Goldscheider)

graph = the representation of the relation between two variables by means of a curved or broken line [Cf **diagram**] **graphic**[a] = by means of a graph — Ger *graphische Darstellung*

graphic alinement (or **alignment**) = the relative distance of the successive elements of a word or of a line of writing to an actual or imaginary base line [Largely a function of the mechanics of writing, it is frequently claimed in graphological and graphopathological investigations that specific variations in alinement have differential diagnostic value]

graphic analysis = any analysis (e g of character, etc) which is dependent upon the relations revealed in a graphic presentation

graphic individuality = a pattern or combination of many specific writing characteristics, which by its uniqueness furnishes the basis for handwriting identification

graphic language = communication or permanent recording of ideas by means of symbols perceived by the visual sense, being either cut into the background or overlaid on the background [The term covers chiseled records, ink and brush writing and printing, pictorial writing, symbolic ideograms, syllabic and single-sound alphabets It may be applied also to phonograph records, etc, but such auditory records should be distg fr the visual, e g as **phonographic** languages or auditory graphic language, vs **opticographic** A graphic language for the blind has been devised which is apprehended through the tactile sense (**haptographic**)]

graphic method = 1 a method of recording responses by means of some device which registers the response or successive responses on a moving sheet of paper or other material, 2 the representation of a result or a series of results by means of a **graph** [The method (1) may be used to measure time intervals, by registering a time line on the record sheet, or by arranging for the record sheet to move at a perfectly even and known rate, or to measure changes in extent of movement, intensity, speed, etc as indicated by transverse motions of the recorder]

graphic product = the visible, natural record of a writing movement [Distg fr **graphomotor process,** which is analyzable by instrumental registration of the movements of the writing act]

graphic rating scale = a method for securing and recording a judgment concerning the degree to which an individual possesses a specified trait, by placing a mark at an appropriate position between the two extremes of a line that represents the possible range of degrees of the trait, e g very lazy to very industrious [Distg fr the method of checking an appropriate answer, e g "Is he industrious? Yes, No", and from **man-to-man rating scale**] — Fr *échelon graphique d'appreciation*

graphic size = height of the short or one-space letters in handwriting, as measured or estimated [More than 3 mm in height is held to be large, less than 2 mm, small] — Fr *hauteur des lettres dans l'ecriture*

graphic variability = 1 the range of variation in the handwriting characteristics of any individual penman (intra-individual variability), 2 range of variation in handwriting characteristics within groups (inter-individual variability)

graphokinesthetic = pert to the muscular and other allied sensations aroused in writing

graphological elements = the phases of handwriting upon which graphologists largely rely, in their characterological analyses [They include graphic dimensions, slant, alinement, line-quality and pressure, continuity, proportions and spacing]

graphological portrait = the interpretation of graphic signs in their relation to one another and to the totality which comprises them [A synthetic as contr w an **analytic process**] — Ger *Handschriftendeutung*

graphology = 1 any scientific investigation of handwriting, either of graphic process or graphic product, 2 personality diagnosis from graphic signs [(2) includes **medical graphology** = the attempt to find in handwriting indications of specific diseases, **forensic graphology** = study by the handwriting expert of graphic signs which are of service in the identification of handwriting]

graphomania = an obsessive desire to write, typically resulting in uncriticized, repetitive, and irrationally valued compositions [It tends to degenerate into **graphorrhea,** i e a meaningless flow of words]

graphopathology = the investigation of changes in handwriting which accompany the incidence of mental or physical abnormality

graphorrhea = a meaningless flow of written words. [Cf **graphomania**]

graphospasm, see **writer's cramp.**

grasping reflex = a coordinated response with the fingers (or toes, etc), whereby an object is held fast [In certain animals this reflex may be

made with the lips or teeth, with the nasal proboscis, etc Psychological interest lies in its early human manifestations in infancy [Mediated in man by 7th to 8th cervical segments of spinal cord] — Fr *réflexe d'agrippement*

gratification = a pleasant emotional attitude attached to the perception of a situation, which perception corresponds to a previous imagination, when the imagery was associated with a feeling of desire [A narrower term than **satisfaction**, which need have no reference to past imagination Contr w **disappointment**] — Ger *Befriedigung*

grating/diffraction, see **diffraction grating**

gratitude = (*pop*) a pleasant and favorable attitude of one person toward another on account of some benefit received from him **grateful**[a] — Fr *gratitude, reconnaissance*, Ger *Dankbarkeit*

grave harmonic, see **difference tone**

Graves' disease, see **exophthalmic goiter**

gravitation = the force which attracts one body toward another directly as to mass and inversely as the square of the distance separating their centroids [Syn **gravity** (3)] **gravitational**[a]

gravity = 1 an enduring disposition, marked by dignity or seriousness, 2 a transient posture or attitude marked by dignity or seriousness, 3 (*phys*) syn for **gravitation** **grave**[a] (1, 2) — Fr *pesanteur*, Ger (1) *Ernst*, (3) *Schwerkraft*

gravity chronometer, see **fall chronometer**

gravity phonometer/Wundt, see **Wundt gravity phonometer**

gray, grey = a type of visual sensation which possesses zero saturation, and (hence) no hue [Syn **achromatic color** The stimuli for the grays may consist of a general mixture of radiant energies of many different wave-lengths (in sunlight), or of complementary pairs of wave-lengths etc The grays form a series, graded according to degree of brilliance or light-intensity, the high intensity end of the series is called **white**, the low-intensity limit **black** According to some views white and black are distinct visual qualities] — Fr *gris*, Ger *grau*

gray/cortical, see **cortical gray**

gray matter = the masses of neural substance in the brain or cord, which contain cell bodies [So called from its grayish appearance in contrast to the whitish appearance of the substance which consists of myelinated nerve fibers **gray matter** forms the outer layer or cortex of the cerebrum and cerebellum, it appears also in the deep-lying ganglionic masses, in the cord it lies only within the white matter] — Fr *substance grise*, Ger *graue Substanz*

green = 1 a visual sensation typically evoked by stimulation of the normal retina with radiation of wave-length approximately 505 5 millimicrons (mμ), 2 any color manifesting a hue predominantly similar to that of the typical green [The complement of **purple.**] — Fr *vert*, Ger *grun*

gregariousness = the tendency, manifested within certain species, to congregate or to live in groups [Syn **gregarious instinct**, which implies that the behavior is an inherited trait, while **gregariousness** merely describes the observed tendency] **gregarious**[a]. — Fr *instinct grégaire*, Ger *Herdeninstinkt*.

grey, see **gray**

grief = an emotional attitude characterized by intense unpleasantness, usually manifested in violent motor and glandular expressions, e g sobbing, weeping, etc [Contr w **joy**] — Fr *chagrin, abattement, peine*, Ger *Kummer*

grimace = a distortion of the features, occasioned either by muscular paralysis or imbalance, or by momentary or habitual feelings, such as pain, disgust, contempt, vindictiveness, affectation, or the like — Ger *Grimasse*

grotesque/the = a scene, figure, or occurrence which contains some of the elements of beauty, but owing to certain marked incongruities induces a tendency to laughter

ground = 1 a rational basis of belief or action, 2 syn for **background**, in treating of configurations — Fr (1) *raison, fondement*, (2) *fond*, Ger (1, 2) *Grund*

group = 1 any collection of objects, beings, or data, which may be treated as a unitary whole, 2 (*soc*) *a collection of organisms* which associate or live together or which respond to one another or to a common stimulus, 3 (*Gestalt*) a pattern or configuration of items, the existence and properties of each of which depend upon the nature of the pattern or configuration as a whole [Syn (1) **class**, syn (2) **social group** Social groups are classed as **primary** (e g the family) and **secondary** (e g a labor union, the state)]

group behavior = 1 the activities of a social collection of individuals treated as a whole, 2 the general activities of group members along similar lines, after eliminating conflicting or individual tendencies, 3 behavior which is characteristic of individuals in a group, but not of the same individuals in solitary situations — Fr *comportement collectif*

group/co-acting = (*soc*) an aggregation of individuals who have a common interest or a like segment of behavior, i e who are responding primarily to a stimulus other than one another [E g a company of soldiers, the Republican party Often coincident with the **secondary group** of sociology, though the latter is considered from the point of view of structure, rather than behavior]

group consciousness = 1 the consciousness, or mind, sometimes attributed to a collection of individuals or community, and regarded as something different and distinct, from the consciousness of any individual, 2 the consciousness which an individual has of other members of the group or of their common activities attitudes, or sentiments [Distg fr **general consciousness** = the experiences which are common to the individuals of a group Cf **collective psychology**] — Fr *conscience collective*

group differences = deviations, in respect to any characteristics, between whole groups in a given population, as determined by some statistical measure, e g the average, or the variability [It is assumed on the basis of probability that there will be corresponding differences between individual members of the group When differences between such individuals are found, there is often the illicit inference that group differences exist Contr w **individual differences**, and w **sex differences**]

group/face-to-face = (*soc*) a group in which the individuals react mainly to one another [E g a family, a committee Often coincident with

the **primary group** of sociology, though not necessarily so permanent in nature] — Fr *groupe de vis-a-vis*

group factors in intelligence = factors (or determiners) which underlie efficiencies, and occur in more than one but less than all of any given set of abilities (Spearman) [The kinship of the specific factors in such performances, i e their eligibility to be considered group factors, may be detected by correlating these performances with two reference abilities Cf **factor theory**]

group fallacy = 1 the assumption, generally regarded as erroneous, of a collective mind, or unitary group consciousness, 2 any postulation concerning group action which is of such a character that, when the supposed *group* activity is reduced to the activity of *individuals*, it will be shown to be either meaningless or false [Cf **biological analogy, crowd psychology** (1), **group consciousness**] — Fr *illusion de l'âme collective*

group marriage = a form of marriage in which a few men, often brothers, marry in common with an equal number of women, often sisters [The husbands may also be related to the wives Esp developed among Australian tribes]

group mind, see **group consciousness**

group selection = a process of selection in which the group, instead of the individual as such, operates as a unit in the struggle for existence [Cf **natural selection**]

group test = an examination, or test, so arranged that it can be applied to a number of individuals at once [Distg fr **individual test**, which is given to each testee separately, the U S Army **Alpha tests** are typical group tests, the **Binet-Simon tests** are individual] — Fr *test collectif*

growth = 1 enlargement of the individual organism or its parts, 2 any kind of increase, e g growth in complexity, efficiency, value, etc [(2) is applied to species and societies, as well as to individuals] — Fr (1) *croissance*, (2) *agrandissement*, Ger (1) *Wachsen* (2) *Wachstum*

growth curve = a graphic representation of the changes which take place in a given mental or physical character or function with increasing maturity of the individual or group [The usual **growth curve** is a rising curve, which represents progressive changes in the function with increasing maturity]

guidance/educational = the process of assisting a person, by the use of standardized procedures and ascertained facts, to plan and pursue his education, in the light of his past achievements, difficulties, abilities, and interests [The standardized procedures are called **educational guidance tests**] — Fr *orientation pédagogique*

guidance/vocational = the process of assisting a person, by certain systematized procedures, to choose a vocation, prepare for it, enter it, and make progress in it [Includes class instruction in occupational opportunities and requirements, provision of opportunities for vocational trial, assistance in self-appraisal, through systematic personal interview, and evaluation of record of past educational and occupational accomplishments Scientific vocational guidance uses also standardized measures of general and specific abilities, interests, and vocationally significant traits of character and personality] — Fr *orientation professionnelle*, Ger *Berufsberatung*

guiding idea = an idea which constantly recurs or persists, and determines the course and direction of associated trains of thought [The **guiding idea** may be general (e g an **ideal**), or specific problem or **task**, the pathological type is called a **fixed idea** Cf **determining tendency**] — Fr *idée directrice*

guilt/sense of = an emotional state, in which the individual is dominated by the belief or knowledge that he has contravened some social custom, ethical principle, or legal regulation — Fr *sentiment de culpabilité*, Ger *Schuldgefühl*

gustation = a sense whose receptors lie in the mucous membrane covering the tongue and soft palate, and whose stimuli consist of certain soluble chemicals, e g salts, acids, etc [Syn **taste** (preferably limited to the function), cf **taste tetrahedron, gustatory qualities**] **gustatory**[a] — Fr *sensation du goût*, Ger *Geschmacksempfindung*

gustatory nerves = those portions of the 7th, 9th, and 10th pairs of cranial nerves which terminate in the taste receptors in the front and back of the tongue, respectively, and the epiglottis

gustatory qualities = the several qualities of taste sensation [Contemporary investigators usually limit gustatory qualities to four *saline*, *sweet*, *sour*, and *bitter* Henning lists these as **primary tastes** (like primary colors) with simple intermediate tastes connecting them Cf **taste tetrahedron, alkaline**] — Ger *Geschmacksqualitäten*

gustatory stimulus = an aqueous solution of a substance which acts chemically upon some material in the receptor-cells of the lingual papillae [The chemical constitution essential to the substances which serve as stimuli for the several tastes is not yet certain The threshold concentration of a sapid substance is high in comparison with that of an odorous substance Cf **gustation**]

guttural = pert to or located in the throat

gutturophonia = a form of **dysphonia** characterized by a guttural or throaty voice

gynandromorphism = the union of both male and female characters in the same organism **gynandromorph**[n p], **gynandromorphous**[a]

gynandry = tendency of the female body to approach in form that of the male **gynander**[n p] = a masculine woman **gynandrous**[a]

gynephobia = morbid fear of women

gyrus, gyre = an arched ridge on the surface of the cerebrum bounded on each side by sulci or fissures [Syn **convolution** The cerebral gyri are named according to their location or from the discoverer of their function, several **gyri** combine to form a **lobe**] **gyri**[pl], **gyres**[pl] — Fr *circonvolution*, Ger *Hirnwindung*

H

h = (*psychophys*) a value derived from the fundamental formula of the phi-gamma hypothesis, which reads $P = 1/2\ [1 - \phi\ (hx - 2)]$ [It is the measure of precision in a normal **psychometric function**, and bears an inverse relation to the **probable error**, $h = 0.4769/p\ e$]

Haab's pupil reflex = contraction of both pupils when attention is directed to a bright object in a darkened room [Mediated by the optic tracts and oculomotor nerves Cf **pupillary reflex**]

habenula = an area of fibers overlying the ganglion habenulae, and located in the **epithalamus,** which functions as an olfactory correlation center

habit = a form of acquired response which is relatively invariable and is readily elicited [Usually restricted to coordinated muscular movements, but sometimes more generally applied, e g habit of thought **habit** is one of the end-products of learning and is therefore often contr w **instinct,** being nearly automatic it is often contr w **purposeful action** On the experiential side, **habit** is usually characterized by decreased attention In pop psychology the term is improperly used with an explanatory connotation, e g force of habit The neural correlate of habit is believed by many to be decreased synaptic resistance According to Aristotle, habit (ἕξις) is of basic importance in morality Distg fr **habituation,** which in psychological usage generally connotes a falling away of overt response, and fr **custom,** which denotes racial habit Cf **fixation** (1)] **habitual**[a] (of the act), **habituated**[a] (of the organism) — Fr *habitude*, Ger *Gewohnheit*

habit-deterioration habit-disorganization = a noncommittal formulation of the essential nature of the deterioration in dementia praecox

habit formation = the process, usually assumed to come about through repetition, whereby a response becomes gradually fixed in a relatively invariable and automatic form [Syn **learning,** a broader term]

habit-forming drug = a drug, usually a narcotic, which produces a craving for continuing its use [E g morphin The resulting condition is called **drug addiction,** the user is a **drug addict,** or **addict**]

habit interference = conflict of two or more contrary acts which are practiced in the same situation and hence likely to be elicited by the same stimulus [E g if one has formed the habit of opening a door outward, this would interfere with later acts, necessitated by a change in the door, to open it inward]

habits/hierarchy of = a phrase employed to describe the organization of simpler habits into progressively higher systematizations [Such organization may be (e g) from letters to words, phrases, etc The conception has been used to explain the occurrence of **plateaus** in the learning of such complex functions as the telegraphic code and typewriting]

habitat = the usual environment of individuals, groups, varieties, or species of plants and animals

habitual image, see **image/habitual.**

habituation = the process of becoming adapted to a given stimulus, situation, or general environment [A pop and rather loose term] **habituate**[v] — Fr *accoutumance*, Ger *Gewohnung*

hair = a fine filamentary structure which projects from the surface of organisms — Fr *poil*

hair-bulb, see **hair-follicle**

hair cells = a series of columnar cells found in the organ of Corti in the cochlea of the ear, they extend serially throughout the length of the cochlear canal in two groups, the inner and the outer hair cells, they vary in length according to their location in the canal, and have therefore been assumed to play a role in selecting stimuli of different frequency, the cells at the base are shortest [Cf **Corti/organ of**] — Fr *cellules ciliées*, Ger *Haarzellen*

hair cells of ampullae = the flask-shaped cells lying between the supporting cells in the membranous lining in the dilatations at the ends of the semicircular ducts [The hair-like filaments of the hair cells project into the cavity where they are supposedly stimulated by the shifting of the otoconia due to changes in position of the head, in turn stimulating the vestibular branch of the 8th cranial nerve] — Fr *crêtes ciliées des ampoules*

hair esthesiometer (or **aesthesiometer**) = an instrument, devised by M von Frey, for measuring pressure sensitivity, it consists of a horsehair or human hair projecting from a handle, when pressed vertically on the skin the hair exerts its maximum intensity just as it bends and the point of inflection leaves the perpendicular, the bending point varies (inversely) with the diameter of the hair and (directly) with the length of projection from the handle [Cf **von Frey hairs**] — Fr *esthésiomètre à crin*

hair-follicle = a sac-like structure in the skin, consisting of the hair root, the root sheaths, and the connective tissue envelope [It is supplied with an afferent nerve termination which is considered to be a receptor [illegible]
it is also connected with [illegible]
Syn **hair-bulb**] — Fr [illegible]

hair sensibility = specific sensations, similar to touch sensations (or identical with them) which are aroused at the base of the follicle of a hair when it is bent or pulled — Fr *sensibilité pilaire*

hair-strokes = upstrokes, downstrokes, or lateral strokes of the pen, which are written with slight pressure [Contr w **shadow strokes**]

half-center/motor = in a motor center concerned with reciprocal innervation, that part which controls one of the pair of antagonistic muscles

Haller's tunica vasculosa = the vascular layer of the choroid coat of the eye [Syn **Haller's layer**]

hallucination = abnormal misinterpretation of ideational experiences as perceptions [Frequently, but not always, indicative of mental derangement Syn **pseudoperception** Cf **illusion, delusion** In **illusion** there is erroneous perception of present sense data, in **hallucination** the error of perception goes so far as to suppose facts present to a sense which is actually receiving no relevant stimulation, in **delusion** (an error of judgment rather than of sense perception) there is misinterpretation of the state of affairs but not of the facts immediately present to sense] **hallucinational**[a] = pert to the process, **hallucinatory**[a] = pert to data

hallucinatory image, see **image/hallucinatory**

hallucinosis = a disorder in which the patient is subject to hallucinations, without any disorder of consciousness or other setting [Cf **alcoholic hallucinosis**]

halo = a narrow bright band which is observed surrounding the dark after-image of a bright stimulus — Fr *auréole, halo*, Ger *Hof*

halo effect = a tendency, when one is estimating or rating a person with respect to a certain trait, to be influenced by an estimate of some other trait or by one's general impression of the person [An important source of error in rating-scale procedure, it may be obviated somewhat by rating one trait for the entire group of persons before rating the second trait] — Fr *effet d'auréole*

hammer-bone, see **malleus**

Hampton Court maze = a pattern of maze used in testing, which reproduces in miniature the historic out-door maze found in the gardens of Hampton Court, England

hand = the terminal part of the forelimb of primates, consisting of carpus, metacarpus, and fingers, which is structurally adapted to the function of grasping — Fr *main*

handedness, see **dextrality** and Table III

handicraft, see **craft** (2)

handwriting = symbolic tracings or marks, made on paper or other material by the human hand or its equivalent, as a record of thought or as a means of communication [Loosely used for script, a more general term, both terms exclude **chiseling** and **artistic representations**, but script would include **foot-writing** and **mouth-writing**. A more inclusive and exact term is **graphic language**] — Fr *écriture*, Ger *Handschrift*

handwriting scale = any device for measurement of excellence in writing by comparison with a standardized series of samples [The two best known scales are the **Thorndike scale**, based on *general merit* as a criterion, and the **Ayres scale**, based on *legibility*] — Fr *échelle d'écriture*

handwriting system = any conventionalized style of writing which involves standardization of design of letters, slant, size and proportion of parts (such as relative height and width of letters), and organization of one, two, and three space letters into a scale of thirds, fourths, or fifths [Well-known American systems include round-hand, Spencerian, and vertical writing] Fr *système d'écriture*

Hans/Clever, see **Clever Hans**

haploid = having a reduced number (i e a single set) of chromosomes [Cf **diploid**]

haploscope = an instrument, essentially the same as the **stereoscope**, with which figures may be presented separately to the two eyes in such a way as to force compensatory displacement or rolling movements of the eyes in order to maintain binocular fusion (Hering)

happen = syn for **to occur** [The term implies randomness or unexpectedness] **happening**^{n}.

happiness = a general pleasurable condition, marked by satisfaction with life as a whole [Contr w **unhappiness**] **happy**^{a} — Fr *bonheur, heureux*^{a}, Ger *Glück*

haptic = pert to the skin or to the sense of **touch** in its broadest sense

haptics = the branch which investigates **cutaneous** sensations

haptometer = a device for measuring differential sensitivity to touch, it consists of a system of levers, by means of which a standard weight is applied to a definite area of the skin and the pressure increased or decreased without jar by removal or addition of counterbalancing weights

hard of hearing, see **hypacousia**

hard palate, see **palate**

Harder's gland = a rudimentary lacrymal gland situate at the inner canthus of the eye

harmful, see **detrimental**

harmonic = a partial tone or overtone, whose frequency is an integral multiple of the fundamental frequency [Often used to denote an emphasized overtone] **harmonic**^{a}.

harmonic analyzer = a mechanical device which resolves a complex curve into its theoretical sine and cosine components, in accordance with the assumptions of Fourier's law [Cf **Fourier's law**]

harmonic mean = the reciprocal of the arithmetic mean of the reciprocals of a series of quantities [The formula for H, the harmonic mean, is $1/H = (1/N)\Sigma(1/x)$ where N = number of cases, and x = any score or other quantity] — Fr *moyenne harmonique*

harmonical/Ellis, see **Ellis harmonical.**

harmonium = a type of reed organ, esp the type in which the air is forced through the reeds by a compression bellows, as contr w the American organ, in which the air is sucked through [**harmoniums** are often given a special tuning for use in demonstrating unusual intervals and scales, and in experimental work Cf **Ellis harmonical**]

harmony = 1 the branch of musical science which considers the combination of tones into chords (or discords) and the progression of these chords in musical composition, 2 a simultaneous combination of tones which produces a musical effect, usually consonant, 3 (*esth*) any arrangement of forms, combination of colors, or other qualities, which induces a pleasurable feeling tone in the observer [Contr w **disharmony, harmony** (1, 2) includes both **consonances** (= pleasing combinations) and **dissonances** (= displeasing effects), many of the latter being admissible provided they are resolved into a consonant chord] **harmonize**^{v}, **harmonious**^{a}

harp theory, see **hearing/theories of**

harshness = a qualitative characteristic of sounds which are of particularly irregular wave form or which present frequent and abrupt variations in amplitude [Syn **roughness**] — Ger *Rauhigkeit*

hashish = syn for **Cannabis indica** [Term derived from **hashishin**, a sect of malefactors addicted to habitual intoxication with **C indica**, this word is believed to be the source of the term *assassin*]

hate, hatred = an emotional attitude characterized by anger and an extreme aversion, enmity, or ill-will, together with a desire to inflict injury upon some individual or object [Contr w **love**] — F *haine*, Ger *Hass*

haunted swing illusion = an illusion experienced when the individual is placed in a swing which apparently oscillates in the usual manner, whereas in reality it is motionless and the room with its entire contents is in motion — Fr *illusion de la balançoire*

haunting = (*pop*) the supposed return of the *spirit* or *ghost* of one who met his death by foul play, for the purpose of tormenting the guilty [The ghost is said to frequent either the environs of the guilty person or the scene of the tragedy] **haunt**^{v} — Fr *hanter*, Ger *spuken*

hazard^n = 1 randomness or chance, 2 a dangerous venture [Too vague and equivocal a term for technical use Cf **randomness**] **hazard**^{v} = to put forward a hypothesis upon admittedly inadequate grounds — Ger *Zufall*

head nystagmus = the oscillatory movement of the head which occurs when an animal is rotated, the head is slowly turned in the opposite direction to that of the rotation and then brought quickly back, this is repeated, with the

rapid component of the action always in the direction of rotation — Fr *n céphalique*

head retraction = a reflex withdrawal of the head when the nares are sharply irritated [Mediated by the trigeminocervical arcs]

headache = pain or ache localized in the head [**organic h** = due to disease of the brain or its membrane, **reflex h**, **symptomatic h** = due to disease of some part external to the brain, e g stomach, eyes, etc Syn **cephalalgia** Cf **cephalagra**, **migraine**] — Fr *mal à la tête, céphalée*, Ger *Kopfweh, Kopfschmerz*

Healy completion test = 1 a colored picture of an outdoor scene depicting ten simple activities, it is provided with ten inch-square openings so placed as to omit ten significant objects, the testee is to select from fifty one-inch blocks the ten which depict objects appropriate for insertion in the openings, thus supplying a non-language form of **completion test**, 2 a similar test showing ten successive scenes in the daily activity of a boy, having sixty blocks for ten openings, and provided with a more refined method of scoring [(1) is technically known as **Healy PC–I**, (2) as **Healy PC–II**]

hearing = the act or function of perceiving sounds by means of the ear [Syn **audition**, preferably applied to the sense or general field of sound perception] — Ger *Hören*

hearing/double disharmonic, see **diplacusis**

hearing loss = the proportion or percent of normally audible tones that cannot be heard by a given person of defective hearing [Cf **audiogram**] — Fr *taux de déficience auditive*

hearing mute = a pop term applied to certain individuals who from birth or from an early age have been unable to speak and who behave like deaf children, but who nevertheless possess considerable ability to hear — Fr *entendant-muet*

hearing range, see **audibility range.**

hearing/theories of = theories which seek to explain the essential operations of the auditory mechanism through which physical stimuli give rise to the phenomena of hearing [There are many such theories, the most prominent types are (1) **resonance** (Helmholtz) **theory**, according to which complex sounds are analyzed within the cochlea through specific response (i e through sympathetic vibration, or resonance) to the simple sine-form components of the sound by separate segments of the basilar membrane (or other structures), (2) **telephone** (Rutherford) **theory**, according to which the auditory mechanism plays a role like that of the telephone transmitter, relaying to the brain impulses similar in frequency and wave-form to the sounds striking the ear, according to this theory, analysis does not occur in the cochlea, but in the brain, (3) **hydraulic** (Max F Meyer) **theory**, according to which (as in the telephone theory) sound frequencies are represented in the frequency of impulses relayed to the brain, but in which (unlike that theory) analysis in the cochlea is accounted for by postulating that different tonal components involve different lengths of the basilar membrane as measured from the oval window, (4) **sound-pattern** (Ewald) **theory**, which holds that sounds cause the basilar membrane to vibrate in segments, with a complex of nodes and antinodes, much like Chladni's plates, and that pitch and analysis occur by the appreciation of differences in the patterns set up by different frequencies Syn (1) **harp theory**, **piano theory**] — Fr *t de l'audition*, Ger *T der Gehörsempfindungen*

heart = a tubular muscular organ, usually divided into chambers, whose function is to force into the arteries blood received from the veins, thereby maintaining the circulation of blood through the body [The **heart** (or **cardiac**) **muscles** are striate in type, but resemble the non-striate or smooth muscles in being regulated by the autonomic nervous system] **cardiac**[a], — Fr *coeur*, Ger *Herz*

heat = 1 (*phys*) a form of vibration belonging to the same series as light, but with much greater wave-length, 2 (*psychol*) a sensory experience due to the simultaneous stimulation of warmth and cold receptors, 3 (*biol*) a state of sexual receptivity in female mammals [(2) is often used as syn for **warmth**, but is technically distg fr the latter as a different quality with a stinging character, and is attributed to a combination of warmth and cold sensations Cf **temperature**] **hot**[a] — Fr (1) *chaleur*, (2) *sensation ardente*, Ger *Hitze*

heat grill = a device for simultaneously arousing warmth and cold sensations in adjacent skin areas, it consists of glass or metal tubes filled with warm water, alternated with tubes of cold water, in parallel series which can be simultaneously applied to an area of the skin [The experience so aroused is, or resembles, the experience of heat as aroused by high temperatures]

heat sensation, see **heat** (2)

heat spot, see **warm spot**

hebephrenia = Kahlbaum and Kraepelin's term for a silly manneristic dilapidating form of dementia praecox **hebephrenic**[a]

hebetic = pert to youth or adolescence

hederiform terminations = a type of sensory end-organ, described by Ranvier, and classed as free nerve endings [They occur in the pig's snout with Merkel cells, but in the human without the latter They are disk-shaped and are found in the interpapillary regions of the Malpighian layer of the skin]

hedonic = pert to feeling or feeling tone

hedonic tone = the pleasurable or unpleasurable accompaniment or characteristic of conscious experiences [Syn **feeling tone, affective tone** (prefd)] — Fr *tonalité de plaisir ou peine, élément hédonique*

hedonics = the branch of psychology which investigates pleasurable and unpleasurable feelings — Fr *théorie de la sensibilité*

hedonism = 1 the ethical theory which is based on the assumption that personal pleasure is the standard for human behavior and conduct, 2 the psychological theory that men act so as to attain pleasant and avoid unpleasant feeling [Cf **utilitarianism**] **hedonistic**[a], **hedonist**[n p]

hedonistic esthetics, see **algedonic esthetics**

heft[n] = syn for sensation of weight

heft[v] = 1 to lift, 2 to experience the weight of an object as judged by the kinesthetic sensations aroused by holding or lifting it — Fr (1) *soulever*, (2) *sentir la pesanteur*, Ger *heben*

Heidelberg man = an extinct human race represented by a fossil jaw found at Mauer near Heidelberg, Germany, regarded as a very early type of man [Syn **Homo heidelbergensis**]

helicoid = resembling in shape the form of a snail, coil, or screw — Ger *spiralförmig*

helicotrema = a small opening in the basilar membrane at the apex of the cochlear canal, through which the scala vestibuli communicates with the scala tympani (Accent **-tree-**)

heliotropism, heliotaxis = a simple orienting response, either positive or negative, to stimulation by the sun's rays, or by light in general [Syn **phototropism**, a broader term including response to any light source Cf **tropism**] (Accent -ot-) **heliotropic**[a]

helix = the curved border of the auricle, or outer ear — Ger *Ohrschnecke*

Helmholtz theory of hearing, see **hearing/theories of**

Helmholtz theory of vision, see **Young-Helmholtz theory**

helplessness = 1 an emotional state attributed to the human infant, manifested in crying, 2 a general term denoting the inability of the human infant to cope with the environment without the assistance of other individuals — Fr *faiblesse*, Ger *Hilflosigkeit*

hematachometer, see **tachometer**

hematophobia = morbid fear connected with the sight of blood

hemeralopia = 1 (etymol) day-blindness, 2 (commonly) night-blindness [Contr w **nyctalopia** Both terms have been used in two opposite senses To avoid confusion, their use should be avoided Cf **night-blindness, day-blindness**]

hemianalgesia = insensitivity to pain on one side of the body

hemianesthesia, hemianaesthesia = insensibility to touch stimuli on one side of the body

hemianopia, hemianopsia, see **hemiopia**

hemiopia = restriction of vision to one lateral half or sector of the binocular visual field, consequent upon loss of sensitivity in corresponding areas of both retinas [Most commonly due to a lesion in their neural connections centrad to the optic chiasm Syn **hemianopia, hemianopsia**, which emphasize the impaired half]

hemiparesis = paralysis of one side of the body

hemiplegia = paralysis (i e loss of ability to make voluntary movements) which affects one side of the body [Due generally to interruption of the pyramidal pathways, e g after rupture of a blood-vessel in the internal capsule] **hemiplegic**[a]

hemisphere = either of the two lateral halves of the cerebrum, or of the cerebellum [Without qualifying adj refers always to the cerebrum]

hemispheres/cerebellar = expanded portions of the cerebellum at either side of the median plane

hemitone = syn for **semitone** in ancient Greek music

hemorrhage (or **haemorrhage**)**/cerebral** = a dispersion of blood due to rupture of a blood vessel in the brain [The pressure of the escaping blood affects the functions of the brain, causing temporary loss of sensation or motility, according to the region affected, and waste products from the absorption of the clot may cause permanent destruction of tissue] — Ger *Blutung*

Hensen's cells = supporting cells of triangular shape, which form the outer rounded border of the organ of Corti in the internal ear

hepatic = pert to or located in the liver (Accent **-pat-**.)

Herbartian psychology = the system of intellectualistic psychology and educational psychology developed by J F Herbart (1824-25) and his followers, which is based upon the presumption that various presentations are struggling to rise into consciousness, and that they inhibit one another, or interact and affect one another, in accordance with certain dynamic principles which can be expressed in mathematical formulae [The standpoint was developed from the doctrine of Leibnitz, which emphasized activity in opposition to the empirical doctrine of passive reception Herbartianism employed the concepts of threshold, inhibition, and degrees of clearness, rising to apperception, it thus became the opponent of pure associationism in Germany and gave psychology an idealistic character which influenced many later writers Cf **intellectualism**]

herd = a group of animals, human or infra-human, which manifest a low degree of social organization [Cf **horde**] — Fr *horde*, Ger *Herde*

herd instinct, see **gregariousness**

heredity = 1 the transmission through the germ plasm of factors or genes, which determine the resemblances of offspring to parents or other ancestors, 2 the sum total of characters derived from factors transmitted through the germ plasm or genes, e g a child's heredity [Syn (1) **heritage**, (2) **inheritance** Contr w (*a*) **acquired characters**, (*b*) **environmental influences, environment**] **hereditary**[a], **inherit**[v] — Ger (1) *Vererbung*, (2) *Erblichkeit*

Hering after-image = the first positive after-image, or after-sensation, which occurs following a brief light-stimulus [It is bright and of the same hue as the primary sensation]

Hering grays = a set of 50 neutral gray papers, graded from extreme white to extreme black in steps which are subjectively equal [The set represents the **achromatic** series of colors] — Fr *papiers gris de H*

Hering illusion = an illusion, or distorted perception of visual form, observed when a number of lines radiating from a point are crossed by two parallel lines on opposite sides of the point and equidistant from it, the parallel lines appear to bow outward, i e away from the central point [Distg fr **Wundt illusion**, in which lines radiating from two points meet at the center and the parallel lines crossing them appear to bow inward at the center]

Hering theory of vision = the theory proposed by E Hering and modified by later writers, according to which visual sensations are due to three pairs of antagonistic processes in the optic system, one member of each pair being catabolic, the other anabolic, the pairs yielding respectively the sensations of white and black, of yellow and blue, and of red and green [The two members of any one pair of colors are said to be **antagonistic colors** Cf **vision/theory of**]

Hering window = a device arranged by Hering to demonstrate color contrast, the essential features of which are a black shutter with 2 oblong openings, placed over the window of a darkened room, one opening is filled with a ground glass, the other with a colored glass, the shadows of a black rod are thrown from the two openings upon a screen of white-glass and are compared [Cf **colored shadow experiment**] — Fr *fenêtre de H*

heritage = the sum total of traits and characters derived by hereditary transmission [Cf **heredity**] — Ger *Erbschaft*

hermaphroditic dreams = dreams which are bisexual in their blurrings or blendings, indicating the bipolarity of the sexual impulse (Coriat) [They occur most frequently in homosexuality] — Fr *rêves hermaphroditiques*

hermaphroditism = presence of both the male and female reproductive organs in a single organism [Cf **somatic hermaphroditism**] (Accent **-maff-**,) **hermaphroditic**ᵃ, **hermaphrodite**ⁿᵖ (4 syll) — Ger *Zwitterbildung*

hermetics = (*hist*) any system of secret lore [E g the Cabalas and the doctrines of the Rosicrucians]

hero = 1 a human being, real or legendary, distinguished for valor fortitude, or bold enterprises, and revered by his contemporaries or by posterity 2 a human being, real or imagined, whose behavior typifies the ideals of another person or persons [Cf **culture hero**] **heroine** (**heroin**)ⁿ ᶠ ᵐ (accent **her-**), **heroism**ⁿ, **heroic**ᵃ, — Ger *Held*

herpes zoster = an eruption of pustules on the skin, following the path of some nerve and symptomatic of an inflammation of the spinal or cranial ganglia of the sensory nerves [Syn. **posterior poliomyelitis, shingles** (pop)]

Herring-Binet test = a modification of the **Binet-Simon scale** published in 1922 by J P Herring, containing thirty-eight tests, taken mainly from Binet [The test differs from the original Binet chiefly in scoring as a **point scale** and in being assembled in five groups, so arranged that the first group alone forms a brief test and that the remaining groups can be used as supplements to the first, as desired]

heterochronia, heterochrony, heterochronism = a difference between two processes in respect to their time or rate of occurrence [Applied esp to the chronaxia of nerves and muscles Contr w **isochronia**] (Accent (1) **het-** and **-chro-**, accent (2, 3) **-rock-**,) **heterochronic**ᵃ, **-ous**ᵃ

heterodox = (in science) characterizing fundamental beliefs which are contrary to the generally accepted scientific principles of the time, or, characterizing the individual who holds such beliefs [Contr w **orthodox**, the terms are borrowed from theology, but are used in science without the emotional coloring] **heterodoxy**ⁿ. — Ger *irrgläubig*

heterogeneity = difference in quality, kind, or sort among the constituents of any group [Contr w **homogeneity**] (Accent **-nee-**) **heterogeneous**ᵃ (accent **-jee-**) — Ger *Verschiedenartigkeit*

heteromorphic = (*biol*) deviating from the normal type

heteromorphosis = the development of an organ in a position in which it does not normally occur, e g the formation of an antenna in place of an eye in the crayfish

heteronomy = the subjection of an individual to the authority or guidance of another, as in hypnosis [Cf **heterosuggestion**] (Accent **-ron-**)

heterophoria, see **imbalance/muscular**

heterosexuality = 1 attraction on the part of an individual for or toward individuals of the opposite sex, 2 sexual intercourse between individuals of opposite sex [Contr w **homosexuality** and **bisexuality**] **heterosexual**ᵃ

heterosuggestion = the inducing of an idea or action in one individual by another [Contr w **autosuggestion** Cf **suggestion**]

heterotropia, see **strabismus.**

heterozygote = an organism of mixed heredity, i e which possesses two contrasted Mendelian characters derived respectively from the two parents [Contr w **homozygote** Cf **zygote**]

hexagonal cells/layer of, see **pigment layer**

Heyman's law = a law pert to the threshold value of visual stimuli, to the effect that the threshold value of a given stimulus is increased, proportionately to the intensity of the inhibitory stimulus, when an inhibitory stimulus is offered

hibernation = a condition of torpor and inactivity which persists in animals of certain species usually during the winter season **hibernate**ᵛ — Ger *Winterschlaf*

hiccup, hiccough = spasmodic contraction of the diaphragm causing inspiration, followed by closure of the glottis — Fr *hoquet*, Ger *Schlucken*

hierarchical table = a table of correlation coefficients which satisfy the **inter-columnar correlation** criterion [This term is now replaced by the less equivocal one, **equiproportional table**]

hierarchy of habits = a complex organization of habits, whereby habits of a higher order include as components those of the next lower order [E g in learning telegraphy, letter habits are combined into word habits, and these in turn into phrase habits]

hieroglyphic writing = a graphic system in which pictures are used to represent objects, words, syllables, or occasionally phonetic elements [The best example is the ancient Egyptian system Grk "sacred carving "] — Fr *écriture hiéroglyphique*, Ger *Bilderschrift*

high = (*aud*) characterizing the pitch of tones which are of relatively rapid rates of vibration [Syn **acute, shrill**] — Fr *elevé*, Ger *hoch*

higher mental processes = a term used to distinguish roughly certain complex cognitive processes or functions (e g thought, constructive imagination, etc) from the more elementary (e g sensation and simple apprehension) [Probably based upon a distinction between human and animal experience or upon genetic considerations] — Fr *processus mentaux supérieurs*

higher units of response = complex unitary responses (e g a word in typewriting) which are integrations of simpler acts [They may in turn function as integral parts of still higher units Cf **hierarchy of habits**] — Fr *unités réactionnelles supérieures*

highest audible tone = the upper limit of the tonal continuum, corresponding to the relatively high stimulus-frequencies [For the normal human ear, the limit is 18,000–22,000 cycles Early determinations placed the limit too high, and there was also confusion through the use of single vibrations (s v) rather than double or complete vibrations (d v) i e cycles (~)] — Fr *limite auditive supérieure*

hind-brain = that division of the brain which is derived from the most caudad of the three primary cerebral vesicles, and which lies nearest the spinal cord [It includes the **cerebellum**

pons, and medulla Cf **epencephalon**] — Fr *cerveau postérieur, arrière-cerveau*, Ger *Hinterhirn*

Hipp chronoscope = a chronoscope driven by clock-work, whose movement is regulated by a vibrating tongue, it is provided with two dials of 100 divisions each, one recording seconds and 10ths, the other 100ths and 1000ths (sigma), the movement of the pointers is started and stopped by means of a clutch actuated by electromagnets, and there are connections whereby the record may either be started by making the circuit and stopped by breaking it, or vice versa [First made by Mathias Hipp, a watchmaker, in 1843 It had been preceded by Wheatstone's chronoscope (1840), and was later greatly improved (1849) It was used about this time by astronomers for measuring the **personal equation** (response or reaction lag) in astronomical observation, and was later introduced into psychological laboratories for the measurement of reaction times]

hippocampus = a term applied to two protuberances, consisting of nerve tracts, situate on the floor of the lateral ventricles of the brain [The **hippocampus major**, or **horn of ammon**, lies in the inferior horn of the lateral ventricle, the **hippocampus minor** in the posterior horn] **hippocampi**[pl], **hippocampal**[a]. — Ger *Ammonswindung*

hircine = a quality of olfactory sensation, of which cheese is a typical example [A class of Zwaardemaker's. Cf **odor**] — Ger *Kaprylgeruch*

histogenesis = the origin, differentiation, and growth of tissues in the body

histogram = (*statist*) a graph of a frequency distribution, in which the number of cases within each class is represented by the height of a horizontal line drawn above the base or x-axis, these horizontals are each the length of a class interval, and are connected by verticals erected at successive class limits [Cf **bar diagram**]

histology = the branch of biology which deals with the structure of the tissues [Contr w **cytology**, which deals with the internal structure of cells]

histonal selection = a variety of natural selection resulting from competition between the various kinds of tissue in the body [Rarely used Syn **intraselection**]

historical fallacy = the assumption that the study of the history of a species, race, etc , enables one to understand its entire nature [Syn **biological fallacy**] — Fr *sophisme historique*

historical method = the investigation of biological evolution by comparison of the temporal succession of forms

history = 1 (*phenomenal* and *pop*) the temporal or chronological succession of events in the development of an organism, social group, disease, etc , 2 the causal connection of events presented phenomenally as a mere chronology, 3 the purposive interpretation of the data of chronology [The causal connection under (2) may be merely the record of uniformities of coexistence and sequence, or it may refer these uniformities to underlying efficient causation] **historical**[a] = pert to history, **historic**[a] = important in history — Ger *Geschichte*

Hitzig's girdle = analgesia (i e insensibility to pain) at the level of the breast, which occurs in tabes dorsalis [Cf **girdle sensation**] — Fr *ceinture de H*

Holmgren test = a test of color-blindness which involves the matching of skeins of different-colored yarn with three standard skeins

holograph = a document, the whole of which is in the handwriting of its purported author

homatropin = (*chem*) a synthetic compound of tropein and mandelic acid, it resembles atropin in its physiological effects, but is much milder [Chiefly used as a mydriatic in ophthalmologic practice]

homicidal tendency = a pathological attitude characterized by a propensity to kill other human beings

homicide = the illegal killing of one human being by another

homing = behavior observed in certain animal species, characterized by an ability and tendency to return to their former habitat when removed to a distance — Fr *orientation lointaine dans le retour au gîte*, Ger *Heimkehrvermögen*

homo = the genus to which man belongs, the only existing species of which is **homo sapiens**

homo-erotic = syn for **homosexual** (Ferenczi) **homo-eroticism**[n].

homogamy = interbreeding between organisms which contain similar characters or are themselves similar (Accent **-mog-**)

homogeneity = similarity of the constituents of any group in respect to quality, kind, or sort [Contr w **heterogeneity**] (Accent **-nee-**) **homogeneous**[a] (accent **-jee-**) — Ger *Gleichartigkeit, Gleichförmigkeit*

homogenesis, homogeny = similarity of organs in different species, due to inheritance from a common ancestry, i e the characteristic of being homologous organs or homologues [Distg fr **homoplasy** = having analogous organs] **homogenetic**[a], **homogenic**[a].

homolateral = on or pert to the same side

homologous organs, homologues = organs which are fundamentally alike in development and structure, but which may differ in function, e g the wing of a bat and the front leg of a mouse [Distg fr **analogous organs** (or **analogues**), which are only grossly similar]

homology = (*biol*) similarity in the fundamental plan of structure of organs, which is indicative of a common evolutionary origin [Distg fr **analogy** = superficial similarity in structure or in function, as between two distant species] **homologous**[a].

homophony = music which consists of one part or melody [Believed to be the original form with all peoples In modern music the term applies to music with simple harmony in which all parts sound together, as contr w **polyphony**, in which the parts move independently] (Accent **-moph-**) **homophonic**[a]

homoplasy = similarity of corresponding organs in different species which is not due to inheritance from a common ancestry, i e the characteristic of being **analogous organs**, or **analogues** [Distg fr **homogenesis** = similarity due to inheritance] **homoplastic**[a]

homosexual neurosis = 1 (*psychoan*) a term applied to the paranoid group of psychoses which are the result of repressed homosexual trends, 2 sometimes (more loosely) applied to that form of sexual inversion known as **homosexuality**.

homosexuality = 1 sexual intercourse between individuals of the same sex, 2 sexual attraction on the part of an individual for or toward individuals of the same sex [Gr **homo-**, same, Lat **sexus**, not derived fr Lat **homo**, man **androgyny, effemination, gynandry, inversion, viraginity** are usually considered as forms of homosexuality Contr w **heterosexuality** and **bisexuality**] **homosexual**[a]

homotaxis = the similarity of succession of organic forms in the geological strata in different regions

homozygote = an organism of pure heredity, which (therefore) produces only gametes containing identical hereditary factors [Contr w **heterozygote.** Cf **zygote**]

honesty = a type of behavior characterized by careful regard for the rights of others, esp with respect to freedom from fraud and untruthfulness in gaining economic or other advantage [Contr w **dishonesty**] **honest**[a] — Fr *honnêteté*, Ger *Ehrlichkeit*

honor, honour[n] = the fact of being regarded by others, and of regarding oneself, as conforming to commonly accepted standards of honesty, truthfulness, rectitude, etc , a condition accompanied by a feeling of self-esteem [As referring to women, purity and chastity have been traditionally associated with the term **honor**] **honorable**[a] — Ger *Ehre*

hope = an attitude or sentiment having a mixed hedonic quality, characterized by an idea of a favorable outcome of future events [Contr w **despair,** which accepts the idea of an unfavorable outcome] **hopeful**[a], **hope**[v] — Fr *espérance*, Ger *Hoffnung*

horde = a small social group having a low degree of organization [A degree higher than the **herd,** but less organized than the **clan**]

horizontal = level, i e parallel to the horizon, i e at right angles to the direction of gravity [Cf **horizontal plane, horizontal axis** is ambig , since it applies to two axial directions]

horizontal plane = any plane of the body parallel to the plane of the horizon [In man, syn for **transverse plane,** in quadrupeds, syn for **mesial or medial plane**]

horizontal-vertical illusion = a visual phenomenon, in which a vertical line or dimension appears longer than the horizontal line or dimension of the same length, e g the figure of the opera hat

hormic theory = the view that organic phenomena are largely determined by purposive factors (e g native dispositions, tendencies, urges), which transcend the realm of physics and chemistry (W McDougall) [Grk **horme,** an urge to action]

hormone = 1 a specific chemical substance formed by one organ, which, on passing into the circulatory fluid, evokes functional changes in other organs, 2 an excitatory autacoid [(1) syn for **autacoid,** (2) contr w **chalone** = inhibitory autacoid, but cf **autacoid**] **hormonic**[a]

hormonic autacoids, see **autacoid,** and **hormone**

horn of Ammon = a portion of the cerebral cortex having a characteristic coiled form and unusual structure, which lies along the medial portion of the temporal lobe and bounds the inferior horn of the lateral ventricle [Syn **cornu Ammonis, hippocampus major**] — Fr *corne d'Ammon*

Horner's law = a principle of the inheritance of color-blindness, according to which the common type of color-blindness is transmitted from males to males through unaffected females [Cf **color-blindness**]

horopter = the locus of all points in the binocular field of vision, the images of which fall upon **identical points** of the two retinas [With the fixation point in the median plane, at a definite distance, and in the same horizontal plane as the nodal points of the two eyes, the horopter becomes substantially a circle passing through the fixation-point and the two nodal points, together with a vertical straight line through the fixation point (**Mullerian horopter**) Cf **Muller's circle**]

horoscope = (*hist*) the positions of the stars and planets at the time of a person's birth, on the basis of which astrologers attempt to read his character and to predict his fate [Cf **astrology**]

horse-power, see **power**

hostility = an attitude characterized by unpleasantness, and by activity detrimental to the welfare of the individual or group toward whom the attitude is directed [Distg fr **pugnacity** = tendency to fight or to resist violently any hampering of one's actions] **hostile**[a] — Ger *Feindschaft*

hot, see **heat** — Fr *brûlant*

hot spot, see **warm spot**

hue = the character of a visual impression as typically determined by the predominant wave-length or wave-lengths of the stimulus [Syn **color tone,** cf **color**] — Fr *tonalité chromatique nuance*, Ger *Farbenton, Farbton*

hue/extraspectral, see **extraspectral hue**

humerus = the bone of the upper arm (Accent hue-) **humeral**[a] — Ger *Oberarmknochen*

humility = an attitude in which the individual behaves toward others as if he were inferior to them [A term used esp in ethics and religion Cf **inferiority complex, inferiority feeling**] **humble**[a] — Ger *Demut*

humor, humour = 1 (*esth*) a complex situation which combines an element of the comic and a sympathetic appeal, or, a linguistic or mixed expression on the part of an individual which intentionally portrays such a situation, 2 an emotional attitude which is characteristically pleasant or unpleasant (e g good humor), 3 a liquid secretion (e g aqueous humor) (1) **humorous**[a] — Ger (1) *Humor*, (2) *Laune*

humoral reflex = a vital response caused by a hormone

humoral theory = (*hist*) the theory that the body contains four humors, a mixing of which, in right proportion, constitutes health, while an improper proportion or irregular distribution constitutes disease [According to tradition, black bile gives rise to the **melancholic** temperament, yellow bile to the **choleric,** blood bile to the **sanguine,** and phlegm to the **phlegmatic**]

hunger = 1 desire for food, the drive or motive in food-seeking behavior, often measured (in animal experiments) by the duration of food-deprivation, a term used without connotation of any particular sensory conscious experience, 2 (more specifically) the dull, aching, gnawing sensation, referred to the region of the stomach and presumably aroused by slow rhythmic contractions of the stomach walls and adjacent parts of the esophagus and small intestine [Distg (2) fr **appetite,** for which there is no

specific sensory quality] **hungry**[a] — Fr *faim*

hunger contraction = contraction of the empty stomach, elicited by hormone stimulation and resulting in hunger pains [Mediated by the musculature and nerve plexuses of the stomach] — Fr *contraction de faim*

hunger pain = a sensation resulting from the hunger contractions [Mediated through the X cranial nerve and bulbocortical tracts]

hunting, hunting behavior = behavior on the part of certain animal species, including man, directed toward the discovery of animal food [The characteristic of hunting is the wandering of the object as well as of the searcher, distg fr **search for fruit**, and fr **fishing**, where the object is relatively fixed] — Fr *chasse*, Ger *Jagd*, *Hetzjagd*

hunting stage = the stage of human culture in which hunting provides most of the food, clothing, and technological materials [It is assumed by many investigators that the earliest form of human society was of this character] — Fr *stade de la chasse*

hybrid[n] = the offspring of two parents which belong to different varieties or species [Hist limited to the progeny of two different species, in Mendelian heredity, any progeny one of whose parents alone possesses a given unit character is hybrid with respect to that character] **hybrid**[a]. — Ger *Bastard*

hybridization = the production of hybrids

Hydra = a genus of fresh water polyps (Coelenterata)

hydrocephalus, hydrocephaly = an abnormal accumulation of fluid within the cranium, either in the cerebral ventricles (internal h) or outside the cavities of the brain (external h) [It results in abnormal enlargement of the head, often with limited brain development] **hydrocephalous**[a] — Ger *Wasserkopf*

hydroid = a Hydra-like Coelenterate, usually attached and branching, and frequently forming the asexual stage, which alternates with a medusa, or sexual stage

hydrotherapy = (*med*) treatment by means of hot or cold water in form of bottles, packs, douches, syringes, compresses, baths, etc

hydrotropism, hydrotaxis = a simple orienting response of an organism or of certain organs to stimulation by water or moisture [Cf **rheotropism**] (Accent **-rot-**, **-tax-**) **hydrotropic**[a], **-tactic**[a]

hygiene = the science or systematic practice which is concerned with the maintenance of health in the individual or community (Accent **hy-**) **hygienic**[a] (4 syll)

hyoid = pert to or located in the region on the front of the throat between the submental (i e beneath the chin) and the laryngeal regions

hyoid bone = a bone situate between the root of the tongue and the larynx, which supports the tongue and gives attachment to its muscles — Fr *os hyoïde*, Ger *Zungenbein*

hypacousia, hypacousis = the state or condition of being slightly deaf, making it difficult for the individual to follow ordinary conversation [Differentiated from **deafness** by the fact that hearing has been sufficient in early life to permit the individual to acquire language in the ordinary way Syn **hard of hearing**[a]] **hypacousic**[a] **hypacousic**[n]

hyperacusis = exceptionally good auditory acuity [Contr w **hypacusis**]

hyperalgesia = pathologically excessive sensitiveness to pain [**auditory h** = *a condition in* which slight sounds cause pain, **muscular h** = a condition in which slight exertion causes great weariness or feelings of strain or aches Syn **hyperalgia**, contr w **hypalgesia, hypalgia**] **hyperalgesic**[a] (prefd), **hyperalgetic**[a]

hypercritical = indulging in too much or too minute criticism [Applied to one who, in examining a theory, report, etc , emphasizes minor objections or flaws without due weight to its merits Not to be confused with **hypocritical** = addicted to **hypocrisy**] **hypercriticism**[n] (rare)

hyperdactylism, see **polydactylism**

hyperesthesia, hyper(a)esthesis, hyperaesthesia = an excessive or unusual degree of sensitivity, esp to tactual stimuli [Contr w **hypesthesia** = blunted sensitivity] **hyperesthetic**[a]

hyperfeminization = exaggerated feminization of structure and behavior which is reported as appearing in certain cases of castrated male animals in which female sex gland elements have been implanted [Cf **feminization**]

hyperfunction = the functioning of an organ or system at more than its normal level

hyperkinesis = a condition characterized by excessively vigorous responses, or motor restlessness [Contr w **hypokinesis**] **hyperkinesic**[a]

hypermasculinization = exaggerated masculinization of structure and behavior which is reported as appearing in certain cases of castrated female animals in which male sex gland elements have been implanted (Steinach) [Cf **masculinization**]

hypermetropia, see **hyperopia**

hypermnesia = an exaggerated degree of retentiveness or recall, usually pathological **hypermnesic**[a].

hypernormal phase, see **supernormal recovery phase.**

hyperopia = a defect of the eye structure or lens mechanism, such that, with accommodation muscles relaxed, parallel rays of light focus behind the retina [Syn **far-sightedness** (ambig), **hypermetropia**, distg fr **presbyopia** Contr w **myopia** **hyperopia** is classed as **manifest** (= revealed by trial-lenses), **latent** (= revealed by use of a mydriatic), or **total** (manifest + latent), also as **absolute** (= degree of failure to bring about clear vision at a distance by accommodation) or **relative** (in which excessive convergence accompanies effort of accommodation), and as **facultative** (= the range of clear vision by accommodation)] **hyperopic**[a]

hyperopic blur = indistinctness of vision due to hyperopia — Fr *flou hypéropique*

hyperphoria, see **imbalance/muscular.**

hyperpituitarism, see **acromegaly**

hyperplasia, hyperplasy = excessive multiplication of elements in an organism [Distg fr **hypertrophy** = abnormal growth of an organ in part] **hyperplastic**[a]

hyperpnea = panting or exaggerated respiration

hyperprosexia = exaggerated arousal of attention and inability to ignore the stimulus [Cf **distractibility**]

hyperthymia = (*rare*) exaggeration of emotional response, or state of excitement

hyperthyroidism = a pathological or experimental condition which results from excessive production of the internal secretion of the thyroid gland or from excessive administration of thyroid gland or its active principle [Psychologically, marked hyperthyroidism seems to involve no impairment of the general intelligence of the individual, but it is often accompanied by emotional hyperexcitability and occasionally by hallucinations A tendency to insomnia is noted, also an increase in reflex excitability and general activity Exophthalmic and adenomatous goiter are conditions of pathological hyperthyroidism Syn **hyperthyreosis** Contr w **hypothyroidism** = a condition resulting from insufficient production of thyroid secretion] **hyperthyroid**[a] = marked by or due to hyperthyroidism

hypertonia, hypertonicity = a state of increased resting contraction (tonus) due to an exaggeration of normal postural reflexes, generally most pronounced in antigravity muscles (Sherrington)

hypertrophy = excessive growth of an organ by enlargement of its tissue elements [Distg fr **hyperplasia** = excessive multiplication of the elements] (Accent -pert-) **hypertrophic**[a]

hypesthesia, hyp(a)esthesis, hypaesthesia = a blunting of sensitivity or raising of the threshold, esp in the case of tactual stimuli [Syn **undersensitivity** Contr w **hyperesthesia** = excessive sensitivity] **hypesthetic**[a]

hypnagogic = pert to drowsiness [E g hypnagogic illusions and hallucinations]

hypnagogic image = imagery of any sense modality, frequently of almost hallucinatory character, which is experienced in the drowsy state preceding deep sleep [Cf **hypnopompic**]

hypno-analysis = psychoanalysis carried out in the hypnotic state, as in the early work of Breuer and Freud, instead of by their later method of free association in the waking condition

hypnogenic, hypnogenetic = 1 producing hypnosis, 2 producing sleep

hypnoidal = characterizing a state which resembles to a certain extent the milder hypnotic conditions but is usually brought about by means other than those used in hypnosis

hypnology = 1 the systematic investigation of sleep, 2 (*hist*) the study and art of **hypnosis** (James Braid, 1843) [Syn (1) **somnology** (rare, but less ambiguous), (2) **hypnotism** (more common)]

hypnopompic = characterizing the drowsy state following deep sleep and preceding awaking [Usually applied to imagery experienced in that state Cf **hypnagogic image**]

hypnosis = 1 an artificially induced state, usually (though not always) resembling sleep, but physiologically distinct from it, which is characterized by heightened suggestibility, as a result of which certain sensory, motor, and memory abnormalities may be induced more readily than in the normal state, 2 (*psychoan*) the capacity to be influenced by suggestion, dependent on the possibility of transference [Cf **hypnotism**] **hypnotic**[a]

hypnotic[n] = 1 a drug used to induce sleep, 2 a hypnotized person [Syn (1) **soporific**]

hypnotism = the scientific investigation of hypnosis and hypnotic phenomena [Pop confused with **hypnosis** = the condition itself] **hypnotist**[np]

hypnotize = to induce hypnosis in an individual **hypnotizer**[np]

hypoblast, see **entoderm**

hypochondria, hypochondriasis = a pathological condition characterized by exaggerated anxiety about one's health, and pessimistic interpretation of various discomforts about some organ or function **hypochondriac**[np], **hypochondriacal**[a]

hypochondriac[a] = pert to or located on the body surface over the liver and on the region symmetrical to this on the left side (Accent -kon-)

hypochondriacal reflex = sudden inspiration elicited by quick pressure below the inferior border of the ribs [Mediated by the 8th thoracic to 4th cervical segments of the cord]

hypocrisy = the simulation by an individual, through his behavior and general line of conduct, of certain ideals or moral characteristics which are foreign to his nature **hypocritical**[a], **hypocrit (e)**[np] — Ger *Heuchelei*

hypodermic[n], **hypodermatic** = a drug or other solution introduced into subcutaneous tissues by injection or infusion through a needle, usually by means of a syringe, or the administration of such a drug, etc **hypodermic**[a]

hypoesthesia, see **hypesthesia**

hypofunction = the functioning or operation of an organ or system at less than its normal intensity

hypoglossal nerve = the 12th cranial nerve efferent to the tongue, which leaves the brain from the anterolateral sulcus between the pyramid and olive, below the cranial accessory nerve

hypognathous = having the under jaws protruding beyond the upper [Cf **prognathous, orthognathous**]

hypokinesis = a condition characterized by subnormal vigor of motor response [Contr w **hyperkinesis**] **hypokinesic**[a].

hypomania = the mild forms of manic excitement (elation and unmotivated excess of well-being, over-activity, and flight of ideas and enterprise) [Syn **hyperthymergasia**]

hypophonia = a form of **dysphonia** characterized by a whispered voice

hypophoria, see **imbalance/muscular**

hypophrenia = lack of (or deficiency in) mental or intellectual ability **hypophrenic**[a]

hypophysin, see **pituitary/solution of.**

hypophysis, see **pituitary gland** (Accent -poff-)

hypothalamus = the region of the forebrain which includes the subthalamic tegmental region, the mammillary bodies, the tuber cinereum, the infundibulum, the hypophysis, and the optic chiasm

hypothenar reflex = flexion of the little finger produced by pressure on the pisiform bone of the wrist [Mediated by the 8th cervical to 1st thoracic segments of the cord] (Accent -poth-)

hypothesis = a preliminary assumption, presupposition, or principle adopted for the explanation of observed facts [The terms **speculation, hypothesis, theory, law**, form a progressive series, according to the increasing adequacy of the evidence] **hypotheses**[pl], **hypothetical**[a], **hypothesize**[v] (*not* **hypothecate**) = to formulate a hypothesis — Ger *Hypothese*

hypothetical = unproved, advanced as an assumption [In a **hypothetical statement,** one clause (the *protasis*), introduced by *if* or some equivalent expression, formulates the hypothesis, the other clause (the *apodosis*) formulates a logical deduction which is valid if the former is found to be true, e g if all men are born equal, slavery is unjust Syllogisms in which one of the premises is hypothetical are called **hypothetical syllogisms**]

hypothymia = (*rare*) lowering of emotional response, or depression

hypothyroidism = a pathological or experimental condition which results from insufficient production of the internal secretion of the thyroid gland [**cretinism, myxedema,** and **endemic goiter** are conditions of pathological hypothyroidism Syn **hypothyreosis** Contr w **hyperthyroidism** = resulting from excessive production] **hypothyroid**[a] = marked by or due to hypothyroidism

hysteria = 1 a psychogenic instability and disorder characterized by dissociations, i e a dispelling from clear consciousness of desired but tabooed preoccupations and an autosuggestive production of various substitutions intelligible only in the light of the pathogenic experiences fits, spastic states, palsies, anesthesias, and other involvements of parts and functions which have played a role in the *repressed* and *dissociated* experiences, 2 (*psychoan*) a psychoneurosis, resulting from a conflict between the ego and the primitive tendencies of the id, in which the latter tendencies are repressed, and are thus excluded from direct conscious expression, it being assumed that the unconscious, repressed material finds an indirect physical outlet through conversion, producing the hysterical symptoms [Formerly looked upon as the simulation of diseases through pressure of a wandering womb against various organs The attacks or episodes are usually remembered only under hypnosis or prolonged use of free association Grk ὑστέρα, womb] **hysteric(al)**[a], **hysteric**[n,p].

hysteria/anxiety = (*psychoan*) a psychoneurosis in which the symptoms consist of one or several varieties of phobias, accompanied by the usual manifestations of fear [Cf **anxiety**] — Fr *syndrome anxieuse*, Ger *Angsthysterie*

hysteria/conversion, see **conversion**

hysteria/fixation = (*psychoan*) a form of hysteria in which the symptoms are related to an organic disease, making use of the latter through a conversion process

hysterical mutism = a state in which a person, because of his hysterical condition, cannot utter words

hysterical twilight states, see **twilight states/hysterical**

hysteriform seizures = convulsions or other episodic motor disturbances which appear to be of hysterical origin, usually with only partial unconsciousness and partial amnesia — Fr *crises hysteriformes*

hystero-epilepsy = a disorder which manifests symptoms of hysteria and of epilepsy and suggests the mechanism of hysteria [A disorder suggested or determined by emotionally charged experiences, contr w the crudely automatic epileptic attack]

hysteroneurasthenia = neurasthenia with evidences of the mechanism of hysteria

I

iconolatry = the worship of images, or more specifically, the worship of pictures [Sometimes distg fr **idolatry** = worship of statues or other solid objects]

ictus = 1 the characteristic of some particular tone (or syllable) in a series, whereby it is more prominent than those preceding and succeeding it [Syn **accent** In music, an **ictus** is generally attached to one tone or chord in every three, four, or six, depending upon the nature of the composition It is made in various ways by greater intensity, by prolongation, by diversity of bass accompaniment, or by mere differences in attention Cf **rhythm**] **ictual**[a]

ictus = 2 (*pathol*) a seizure or stroke

id = 1 (*biol*) a term proposed by Weismann for a postulated complex vital unit composed of an organized group of hypothetical determinants, 2 (*psychoan*) the impersonality of the mind apart from its ego, the true unconscious or deepest part of the mind, the reservoir of instinctive impulses, dominated by the pleasure-principle and blind impulsive wishing, i e the dynamic equivalent of the descriptive unconscious [Cf (1) **idant, determinant,** (2) **ego, super-ego**] — Fr (2) *le ça*, Ger (2) *Es*

idant = a term proposed by Weismann for a postulated complex unit of germ plasm composed of simple postulated units (**ids**), composed of still simpler postulated units (**determinants**), composed of the simplest vital units (**biophores**) [All these structures were postulated to account for observed vital phenomena]

idea = 1 an experience or thought not directly due to sensory stimulation, 2 a mental complex consisting wholly or in major part of images, 3 a psychological process having a symbolic or representative rather than a direct function, 4 (*hist*) any cognitive experience, whether due to direct stimulation or not, 5 (*hist*) the objective eternal archetypes or laws of natural things (Plato) [Locke (1690) established the term as (4), but Hume (1739) distinguished between **impression** and (2)] **ideational**[a] (prefd to **ideal**[a], which is ambiguous) — Fr *idée*, Ger *Vorstellung*

idea/fixed, see **fixed idea.**

ideal[n] = an emotionally colored representation of some future line of behavior or situation as desirable, though scarcely attainable **ideal**[a]

idealism = 1 a term applied to several types of world-view, which insist (*a*) that the world (or reality as a whole) is most adequately conceived of in terms of ideas or thought, interpreted in various ways, rather than in terms of matter and purposeless motion in space, (*b*) that values have a cosmic significance and are discovered, not invented, by man, 2 (*esth*) the theory which emphasizes the subjective aspect of beauty [**idealism** (1) includes the following types (*a*) *subjective* 1 = that the world exists only as an order of ideas in a society of minds (Berkeley, Ward), (*b*) *objective*, or *absolute* 1 (Hegel) = that it consists (not only as known to us, but in itself) of *ideas* belonging to universal Mind (an impersonal rational order), and that logical structure and values (moral, esthetic, and religious) possess in it objective reality, (*c*) *transcendental*, or *critical* 1 (Kant) = that *a priori* conditions of experience determine the possibility of objects of experience **Contr.**

(1, 2) w **realism**] (Accent -dee-) idealistic[a], idealist[n p]

idealization = the conceiving of an object in accordance with one's desires or ideals idealize[v].

ideation = the process or mental operation of forming ideas

ideational[a] = pert to ideation or to ideas [Not to be confused with ideal[a] = pert to an ideal]

ideational learning = learning, or acquisition, which proceeds largely in terms of inner analysis and reflection, and with a minimum of overt movement [Distg for practical purposes fr **motor learning**, though the two types are identified by some investigators] — Fr *acquisition mentale, apprentissage mental*

ideational stimuli = stimuli which produce a reaction through the mediation of associated ideas [Syn **ideal stimuli** (ambig)]

idée-force = a term proposed by A Fouillée to denote an idea as possessing dynamic properties and acting as a force [French term] — Ger *Kraftidee*

identical = 1 similar in every respect, 2 asserted to be the same, 3 interchangeable in every (essential) respect under all conditions [(1) applies to two separate figures (e g triangles), (2) is used where an item discerned at different times or in different circumstances is asserted to be not two items but one Cf **identity, equality**] — Ger *identisch*, (3) *gleichbedeutend*

identical elements = components of two or more situations, or organic sets to such situations, which are the same or similar (The term is incorporated in the educational theory that the effects of practice in one situation are transferred to another situation to the extent that the two situations contain identical elements Cf **transfer of training**]

identical points = any pair of retinal points in the two eyes which, when the eyes are in the primary position, receive stimuli from the same objective point at infinite distance [Distg fr **congruent points**] — Ger *Korrespondierende Netzhautpunkte, Deckpunkte* (Hering)

identical proposition = a statement in which the predicate repeats the subject so completely that the assertion does not promote thought

identical series/method of = a **recognition method**, in which the test materials are identical with the learned materials and in which there are **no blank experiments** [Introduced by Reuther (1906) and espoused by Wundt]

identical twins, see **twins**

identical visual direction/law of = in binocular vision, any pair of corresponding lines of direction in actual (objective) space are represented by a single line of direction in visual space in such a way that everything which actually lies upon either line of the pair appears to be on this single line, regardless of the location in actual space which these external objects may occupy

identification = 1 the assertion, or demonstration by evidence, that two or more separate characterizations of individuals classes etc , actually denote the same individual, class etc , 2 (*psychoan*) an unconscious mental process which expresses itself in the form of an emotional tie with other persons or situations in which the subject behaves as if he were the person with whom he has this tie, 3 (*biol*) subsumption under a named class e g the identification of an organism [(2) plays an important part in the development of the Edipus-complex] identify[v]

identity = 1 the characteristic of an organism, sense datum, etc such that it persists without essential change, 2 (*math*) an equation which is satisfied for all values of the constants and variables entering into it, 3 (*logic*) consistency in the use of a term within a given realm of discourse [Designated (2) by symbol ≡ Cf (1) **sameness**]

identity hypothesis, see **double-aspect theory**

identity/personal, see **personal identity**

ideograph, ideogram = 1 the graphic representation of an object or idea by a single symbol, as distg fr representation by the use of letters or syllabic signs, 2 syn for **pictogram**, 3 a curve or tracing giving a direct record of muscular movements due to changes of thought ideographic[a]

ideology = 1 the theory of the nature of ideas and of intellectual operations, 2 syn for **psychology** (Destutt de Tracy), 3 syn for **Weltanschauung**, or **world-view** ideologist[n p] (applied usually to members of the French school (latter 18th and early 19th centuries) which followed the teachings of Condillac and Locke)

ideomotor[a] = pert to the sequence of movements upon ideas [Contr w **sensorimotor** = pert to the direct sequence of movements upon sensory stimuli] (Accent i- not id-)

ideomotor activity = responses which follow upon thought processes, even though of a fleeting character, as contr w those which follow directly upon sensory stimulation [Contr w **sensorimotor activity**]

ideoplasy = the operation of ideas upon physiological processes ideoplastic[a]

idiocy, see **idiot**

idiogamy = (*psychoan*) the restriction of male potency to cohabitation with one woman

idiogenetic theory = the theory proposed by F Brentano which assumes that the function of judgment is an original or primordial mental fact

idioglossia = speech which is unintelligible because of many sound omissions, substitutions, and transpositions

idiographic = pert to the study of particular cases or individual instances [Contr w **nomothetic**]

idiolalia = invented language, characteristic of individuals of low mentality [A form of **dyslalia**]

idiopathic = characterizing a disorder or pathological condition as primary, i e not the effect of some other disorder nor the result of accident or injury

idiophonia = a form of **dysphonia** characterized by unpleasant voice quality

idioplasm = a word coined by Nageli to designate that portion of living substance concerned in reproduction, as distg fr **trophoplasm**, which has to do with nutrition [Nageli maintained that idioplasm occurs in the form of a network pervading the organism Later the term came to be identified with the **chromatin** of the nucleus]

idioretinal light = visual sensations of light which occur in the absence of stimulation of any sort,

and are attributed to physiological processes within the retina itself or in the brain — Fr *lumière retinienne*, Ger *Eigenlicht der Netzhaut*

idiosyncrasy = any item of behavior peculiar to a given individual, which is not readily assignable to general or well-known psychological processes **idiosyncratic**[a]

idiot = a feebleminded individual who manifests the lowest grade of mentality [Generally limited to those who maintain throughout adult life a mental age of from 0 to approximately 2 years (Goddard), or an intelligence quotient ranging approximately from 0 to 25 (Terman) Cf **feeblemindedness**] **idiocy**[n], **idiotic**[a]

idiot-savant = a feebleminded individual of any grade who has a special talent in one or more directions, such as music, checker playing, rapid calculating, or handicraft [French term, a possible English equivalent is **simpleton-prodigy**] **idiots-savants**[pl]

idol = (*logic*) a prejudice, usually due to social tradition, which hampers the discovery of truth [Bacon, in the Novum Organum, distinguished four kinds of idols, the *idola tribus*, *idola specus*, *idola fori*, and *idola teatri* The first are common human prejudices, such as anthropomorphisms of various kinds, the second are prejudices due to special development and occupations of the individual, such as the tendency of a biologist toward biologism, a mathematician toward mathematicism, etc, the third are those due to social intercourse, such as the tendency to repeat current appreciations uncritically and mechanically, the fourth is the tendency to systematic dogmatism, scepticism, or mysticism]

idolatry = the worship of statues or other inanimate objects [Cf **iconolatry**]

iletin, see **insulin**

ileum = the lowest part of the small intestine **ileac**[a]

illegitimate = 1 (*logic*) characterizing inferences or other reasoning processes which violate the accepted principles of logic, 2 (*soc*) born out of wedlock [Syn (1) **illicit**] **illegitimacy**[n]

illicit = contrary to law or to logic [Applies to faulty reasoning, also to sexual relations forbidden or not approved by law or custom Syn **illegitimate**, applied to faulty reasoning or to children born of illicit relations]

illiteracy = inability to read, due to lack of education rather than to mental deficiency **illiterate**[a] (applied only to mature individuals) — Fr *analphabetisme*, Ger *Analphabetismus*

illumination = (*photom*) the density of light-flux incident upon a surface — Fr *eclairement*, Ger *Beleuchtung*

illumination/law of = the principle that the illumination upon a surface varies directly as the luminous intensity of the light-source, inversely as the square of its distance, and directly as the cosine of the angle made by the light-rays with the perpendicular to the surface

illusion = a misinterpretation of certain elements in a given experience, such that the experience does not represent the objective situation, present or recalled [Broadly divided into **illusions of memory**, in which the memory is mislocated in time, or includes elements not in the original perception, and **illusions of perception**, which are of many sorts, such as **of motion** = apparent motion of an immobile object or field, **of movement** = apparent movement of a rigid member or of one's entire body **of orientation** = misinterpretation of the position of one's body in space, **visual space illusion** = misinterpretation of the spatial relations of objects or figures seen The most striking spatial illusions have been named after their discoverers, e g **Hering, Muller-Lyer, Poggendorff, Zollner** (cf these terms), **illusions of reversible perspective** occur in flat or solid figures when certain parts appear sometimes nearer, sometimes farther from the eye (e g **staircase illusion**) Distg fr **hallucination**, which mistakes a central construction for a real object, while **illusion** merely distorts perception See Table XII] — Ger *Tauschung, Sinnestauschung*

illusion/correction of = the reduction or entire elimination of illusory effects in geometric or spatial illusions, (*a*) through the addition of counteracting lines and spaces, (*b*) by the gradual effect of practice, or (*c*) through the sudden suggestion of a new idea or meaning associated with the figure

illusion/optical, see **optical illusion**

illusory movement, see **movement/theory of**, and **apparent (motion or) movement**

image = 1 an element of experience which is centrally aroused and which possesses all the attributes of sensation, 2 an experience which reproduces or copies in part and with some degree of sensory realism a previous perceptual experience in the absence of the original sensory stimulation, 3 (*opt*) the picture or reproduction of an object produced by a lens, reflector, or optical system, as a result of the focusing of the light emanating from each point in the object **imaginal**[a], not to be confused w **imaginary** = pert to imagination, or fictitious

image/anticipation = an image which is accompanied by reference to a future time when a corresponding sensory experience is expected

image/composite = an image which is derived from a plurality of previous sensory experiences and does not copy any single such experience

image/eidetic, see **eidetic image**

image/general = an image regarded by the subject as referring to any one of a class of objects

image/habitual = an image which regularly or frequently recurs as a representation of a certain meaning

image/hallucinatory = an image which seems at the moment to be a perceptual experience

image/hypnagogic, see **hypnagogic image**

image/imagination = an image, usually built up from several previous sensory experiences and accompanied by reference to an object that has never been perceived by the subject

image/retinal = 1 the optical image of external objects formed upon the retina by the refracting surfaces of the eye, 2 the consequent pattern of physiological activity excited in the retina and corresponding to the distribution of energy in the optical image [Syn **retinal picture** (*projd*), **retinal impression**] — Ger *Netzhautbild*

image/tied = imaginal content attached to a present perception

imageless thought = an idea, thought, or train of thinking which is wholly lacking in sensory contents [The theory of **imageless thought**,

originated by Kulpe and the Wurzburg school (1901-9), maintains that such experiences actually occur, critics of the theory have asserted the existence, in all cases, of vague sensory components or aspects] — Fr *pensee sans images*, Ger *unanschauliches Denken*

imagery = images taken collectively, or the imaging operation in general

imaginary, imaginary quantity = (*math*) a magnitude containing the factor $\sqrt{-1}$ [Designated by symbol i, e g $\sqrt{-9}$ or $i\sqrt{9}$]

imagination = the reorganization of data derived from past experiences, with new relations, into a present ideational experience **imaginative**[a] = pert to the data or process, **imaginational**[a] = pert to the study, **imaginary**[a] = fictitious — Ger *Phantasie, Einbildungskraft*

imaging = forming an image, i e picturing, reproducing [Applied esp to an image-forming optical system, including that of the eye Cf **image/retinal**] — Fr *représentation optique*, Ger *abbildend*

imago = 1 (*biol*) the final state of an insect after it has undergone metamorphosis and become sexually mature, 2 (*psychoan*) a memory, phantasy, or idealization of a beloved person, formed in childhood and remaining uncorrected in adult life (Accent **-may-**.)

imbalance/muscular = the tendency of either eye (owing to abnormalities in the extrinsic muscles or in their innervation) to deviate abnormally from its position of fixation when fusion of the two images is prevented, e g by the use of a **Maddox rod** or an opaque screen before that eye alone [In a pair of normal eyes fixated on a point at 20 feet distance the covered eye usually retains its position of fixation, at 13 inches it deviates outward 2 or 3 prism degrees Syn **heterophoria, muscular insufficiency** Cf **muscle balance** If there is no deviation of the covered eye the condition is called **orthophoria,** if the deviation of the latter is inward, **esophoria,** outward, **exophoria,** upward **hyperphoria,** and downward, **hypophoria, cyclophoria** has also been observed] — Fr *hétérophorie, déséquilibre de convergence*

imbecile = an individual who manifests a medium grade of feeblemindedness [Generally limited to those who maintain throughout adult life a mental age of approximately from 3 to 7 years (Goddard), or an intelligence quotient ranging approximately from 26 to 50 (Terman) Cf **feeblemindedness**] **imbecility**[n], **imbecile**[a]

imitation = 1 the process of performing an act which act is stimulated by the observation of similar behavior in another person or animal, 2 (*esth*) characterizing, according to mimetic theories of art, the art-process [Syn (2) **mimesis** Cf **copy, mimetism, protective coloring, mimicry**] **imitate**[v], **imitative**[a], **imitativeness**[n] (the trait) — Ger *Nachahmung*

immaterialism = (*epistem*) the view that the existence of matter cannot be confidently affirmed, inasmuch as all perceptual experiences are items of consciousness [Contr w **materialism** Cf **spiritualism**]

immediate = 1 without intervening phenomena, 2 without any considerable intervening time [Contr (1) w **mediate** = involving some intervening event] — Ger *unmittelbar*

immediate association = a thought which arises directly as a result of suggestion, and not through some interpolated thought [Distg fr **mediate (or mediated) association,** where some interpolated thought or train of thought occurs between the suggestion and the thought in question]

immediate experience = the type of experience dealt with by psychology, as contr w the **mediate experiences** with which the physical sciences deal (Wundt)

immobility = the condition of being temporarily incapable of movement, as in paralysis, death-feigning, hypnosis, etc

immobility/tonic, see **tonic immobility**

immoral = a term characterizing acts which violate social standards with respect to what is considered right or wrong, frequently connoting a sanction from some superhuman source such as society, an absolute Right, or a deity [Syn **unethical** Cf **bad, evil** Distg fr **unconventional,** which implies merely lack of conformity without serious disapproval by social or divine sanction, and distg fr **illegal** which implies a violation of social usage punishable by legal methods, and fr **unmoral** and **non-moral**] **immorality**[n]

immortality = the endless survival of the personality of an organism after biological death **immortal**[a] — Ger *Unsterblichkeit*

immunization = the protection of an organism, through inoculation, against some specific germ disease [Includes **active im** in which protective substances are elaborated in cells of the organism having the disease, and **passive im.** in which protection is conferred by the injection of immune bodies produced actively in the blood of other animal species] **immune**[a], **immunize**[v]

impedance = (*elect*) that property of an electric circuit which limits the current set up by a given electromotive force [When the electromotive force is a varying one, e g an alternating voltage, the impedance will be of two kinds, resistive and reactive **resistive impedance** is manifested as an immediate transfer of electrical energy into heat by reason of the resistance of the conductors **reactive impedance (reactance)** is either inductive or capacitative **inductive reactance** for a sinusoidal current is the angular velocity multiplied by the inductance **capacitative reactance** for a sinusoidal current is the reciprocal of the product of angular velocity and capacitance]

impediment/speech = a loose term applied to stuttering and other slight disturbances of the free flow of speech — Fr *embarras de parole*

imperative[a] = characterizing actions which are obligatory, i e compelled by command, by circumstances, or by recognized principles of ethics, logic, etc

imperative/categorical = an ethical principle, recognized by any given individual, which is considered as a kind of compulsion, obliging him to adopt certain courses of conduct and to refrain altogether from others

imperative idea, imperative conception = a dominant or persistent idea which is correlated with the behavior of an individual in certain pathological conditions

imperceptible = characterizing a stimulus which is too weak to give rise to any conscious experience

imperceptible difference = characterizing a difference between two stimuli which is too small

(in respect to intensity, extent, or duration) to be distinguished [The two resulting experiences, in such cases, are reported as **equal** or **similar**] — Ger *unmerklicher Unterschied*

impersonation = the (active) representation of one person by another, either legitimately, as on the stage, or illegally, so as to obtain certain advantages by the misrepresentation

implicit = not directly stated or given, but deducible from the data or proposition [Contr w **explicit** Cf **implicit response**]

implicit response = any response involving muscles or glands or both, which is not easily observable by another person without instrumental or experimental aid [It includes deep-seated changes within the body (e g contractions or secretions of the stomach) as well as skeletal changes of minimal degree (e g changed tonus in biceps muscle or subvocal speech movement) The term was coined by J B Watson (1913) Syn **covert response** Contr w **overt** or **explicit response**, this distinction is one of convenience and not thoroughgoing]

importⁿ = the meaning of a judgment or statement, or the implications of a proposition [Cf **meaning**] — Fr *portée, signification*

impossible = characterizing a proposition which violates the accepted principles of logic or of empirical science and thus represents a condition or situation which is never found in nature [Often applied improperly, in rebuttal, to preclude re-examination of the underlying premises or principles Distg fr **untrue**, which fails to represent actual facts, but is not obviously contrary to logic or science, and fr **inconceivable**, which characterizes limitation of human intellect Contr w **possible**, characterizing a proposition, etc, which may represent reality] **impossibility**ⁿ. — Ger *unmöglich*

impotence = the inability (usually in a male) to perform normal coitus [Cf **sterility**] **impotent**ᵃ

impression = 1 (*psychol*) the neural results of stimulation, 2 (*esth*) the effect produced by the intrinsic characters of an object, as distg fr its meaning, 3 (*pop*) a vague judgment or conclusion [Distg (1) fr **sensation**, which refers to the subjective effect, Hume used the term in contr w **idea**, or revived impression] — Ger *Eindruck*

impression/method of = any approach to the investigation of feeling (emotion), in which the subject reports (or describes from introspection) his affective experiences that arise in connection with a given stimulus [**paired comparisons** is the method most frequently employed Distg fr **method of expression** = any one of the methods of recording bodily changes involved in feeling or emotion] — Ger *Eindrucksmethode*

impressionability = a characteristic of certain individuals such that they are extremely susceptible to new situations and readily absorb elements from a new environment **impressionable**ᵃ

impressional tendency = the tendency of certain ideas or conscious contents to recur in mind because of the strength or vividness of their original impression [Cf **associative tendency**]

impropriety = the quality of an act, such that it is not in accordance with conventional patterns of behavior common to the members of the given social group [Cf **propriety**] **improper**ᵃ

improvement = (*beh*) progressive approximation to some standard as a result of training [Applied either to a *single response* or to an organized series of responses, **improvement** may be measured in various ways, e g by increased *simplification* (i e dropping out of non-essential movements, or by *decrease in time* required for the entire act] **improve**ᵛ — Fr *progrès*, Ger *Verbesserung*

improvement/zero = failure of an individual organism to gain in rate, accuracy, or other measure of performance as a result of practice — Fr *zéro de progrès*

impulse = a tendency to action which is involuntary and is not directly traceable to stimulation **impulsive**ᵃ (characterizing both the action and an individual who is specially subject to impulse) — Fr *impulsion*, Ger *Regung, Impuls, Anstoss*

impulse/nerve (neural, or **nervous)** = the specific activity which is propagated along neurons, and esp along their fibers [Syn **propagated disturbance**] — Fr *influx nerveux*

impulsion = a state of the organism which predisposes it for some specific type of activity — Ger *Drang*

impulsive act = a response made without reflection or delay

impulsive action = (*introsp*) an action (e g in the reaction experiment) which includes in course (1) a knowledge of the end, together with an awareness of the determination to move, (2) a perception which releases the movement, and (3) a knowledge that the movement has occurred and that the end has been attained or not attained [Cf **action, selective action, automatic action**] — Ger *Triebhandlung*

impulsive obsession = an irresistible urge to do things which one recognizes as foolish or undesirable [Syn **compulsion neurosis**]

impulsiveness = a tendency to act without deliberation or to respond immediately, although not reflexly, to a situation **impulsive**ᵃ — Fr *impulsivité*

inaccessibility = a general condition of the individual in certain mental disorders, characterized by extreme unresponsiveness to suggestion and failure to respond to questions [Specially characteristic of schizophrenia]

inaccuracy = 1 lack of correspondence, in any significant respect, between a given report or formula and that which it represents, 2 the presence of some error in a report or formula [Contr w **accuracy** = close correspondence or absence of error] **inaccurate**ᵃ — Fr *inexactitude*, Ger *Ungenauigkeit*

inadequacy, inadequate personality = behavior characterized by slight mental inferiority, specifically observed in an inability to cope with complex social and economic situations — Fr *personnalité insuffisante (incomplète)*

inadequate stimulus = a type of stimulus which is unusual to a given receptor, but operates effectively upon it [E g an electric current producing visual sensations Contr w **adequate stimulus** The terms are awkward in English and might well be replaced by **abnormal** and **normal**, or **inappropriate** and **appropriate**]

inattention = a state of consciousness in which there is no well-defined focus of attention, i e no part of which is characterized by a high degree of clearness [Often used pop to mean lack of attention to some particular content]

Inbegriff = a German term denoting an inclusive concept or totality of varied contents, united by some common interest

inborn = present in the individual at birth [Often syn w **innate, connate, inherited,** or **congenital** = potentially present in the fertilized germ-cell] — Fr *inné*, Ger *angeboren*

incantation = a formula or ritual used in applied magic, either to injure an enemy or to obtain some possession or attribute for oneself or for another **enchant**[v]

incapable = totally lacking in ability — Ger *unfähig*

incapacity = (*legal*) inability to manage one's own affairs, due to mental disorder **incapable**[a].

incendiarism = (*criminol*) a tendency to set fire to dwellings or other buildings [Distg fr **pyromania,** a pathological tendency Cf **arson**]

incentive = 1 an interoceptive stimulus, or a central neural activity combining with some external stimulus, which leads to a response, 2 an extra-organic stimulus or situation which serves to maintain or to direct motivated conduct [(1) generally denotes a **drive,** or an idea or any motor tendency not the direct **result** of exteroceptive stimulation, which leads to responses toward an objective such as food, property, matrimony, etc (2) is a counterpart to the intra-organic drive or urge, though not always necessary to the latter If the motivation of conduct be conceived as originating in some maladjustment between organism and environment, the organism s efforts are said to be the immediate result of inner **drive** while the critical environmental conditions are called the **incentive,** i e food is an *incentive* to a *hunger driven* animal or person, a badge of honor is an *incentive* to one under the urge of ambition Contr w **deterrent** = which leads to inhibition or movement away from] — Ger (1) *Motiv*, (2) *Anregung*

incest = sexual intercourse between two closely related individuals of opposite sex [Now generally restricted to parent-child, grand-parent-grandchild, brother-sister, and (in many races) avuncular-nepotistic intercourse, first used also in a broader and a narrower sense, in exogamous tribes any intercourse within the clan is incest] **incestuous**[a]

incest barrier = (*psychoan*) the barrier in the development of the libido in which the individual seeks to pass from objects unsuited to sexual wish gratification, to those other persons with whom genuine sexual life may be carried on without feelings of guilt — Fr *obstacle à l'inceste*

incest dream = (*psychoan*) a dream having an incest motive or reference, either literal or symbolic — Fr *rêve d'inceste*

incidental = occurring occasionally, but not properly a part of a given situation or sequence — Fr *occasionnel*, Ger *zufällig*

incidental cause = an antecedent which occurs occasionally in a given process, but which is disregarded as being not an essential element or factor in the process itself

incidental cues = stimuli which occur occasionally in connection with a given stimulus and assist in determining the character of the response to that stimulus — Fr *points de repères occasionnels*

incidental errors of observation = errors entering into the report of an observer which have no relation to the controlled conditions of an experimental situation

incidental learning = the learning in a casual manner of items in one's environment, i e without special effort or specific attention to them, or without special intent to learn them [Cf **incidental memory**] — Fr *apprentissage (acquisition) occasionnel*

incidental memory = memory of experiences in the absence of any set intention to retain the impression [Applied esp to the learning process Syn **unintentional memory**] — Fr *mémoire occasionnelle*

incipient = pert to the beginning of a process [E g incipient movement, often applied to a rudimentary activity which does not progress beyond the initial stage] — Fr *commençant, naissant, débutant*

incitogram = the neural conditions which underlie the organization of efferent impulses

incoherence = lack of orderly or systematic connection of parts [Applied to speech, to presentation of a theory, etc Used also to designate a symptom of mental disorder] **incoherent**[a]

incommensurable = 1 (*math*) characterizing magnitudes which have no common measure, e g the circumference and diameter of a circle, the side and diagonal of a square, 2 (*arithmetic*) characterizing numbers which have no common divisor except unity

incompatibility = 1 the fact that two characteristics are such that they can never coexist in any given individual organism or mind, 2 the relation between two judgments such that if one be true the other is false, 3 the characteristic or quality of two persons such that they do not associate freely or harmoniously with each other [Syn (2) **contrariety** Contr w **compatibility** in all three senses] **incompatible**[a]

incompetency = a lack, on the part of an individual, of the qualifications essential for the normal performance of certain tasks [Used technically in law, and loosely in social science Syn **incapability,** prefd in psychol Cf **non compos mentis**] **incompetent**[a]

incomprehensible = characterizing a statement or attitude on the part of an individual which the reader or critic, after careful consideration, finds self-contradictory or confused [The term usually implies a characteristic *inherent* in the statement or attitude] — Ger *unverständlich*

inconceivability, inconceivableness = the character of a statement, theory, etc , such that the critic is unable to represent it in terms corresponding to any actual situation [Spencer's ultimate criterion of truth is the **inconceivability of the opposite** Cf **conceivable**] **inconceivable**[a]

incongruous = 1 out of keeping with a prior thought or pattern, 2 esthetically discordant [Contr w **congruous**] **incongruity**[n]

inconsistency = the relation between two properties or sets of data, not formally contradictory or contrary, such that if they were fully understood they would seem to be mutually incompatible or to involve contradiction **inconsistent**[a]

incontinence = 1 inability to restrain a natural discharge, esp of urine, 2 lack of self-control, esp of sexual indulgence

incoordination/motor (or **muscular**) = lack of balance or harmony in the simultaneous action of different muscle groups which normally cooperate in the performance of a complex act [Syn **ataxia** Contr w **coordination**]

incredibility = the incompatibility of a statement (or of extended testimony) with known facts, such that the hearer or reader is led to an attitude of intense disbelief [Contr w **credibility** = such that an attitude of belief is induced] *incredible*[a]

increment = the amount of change in a magnitude [Literally, the amount of *increase*, but usually generalized to include decrease (i e negative increment, or **decrement**) also In psychophysics, the increment of stimulation is that fractional increase of the stimulus which yields a just noticeably greater sensation]

incremental reflex = increase of a reflex on sudden intensification of the provoking stimulus

incubus = 1 (*hist*) a demon, 2 syn for **nightmare**

incus = one of the **auditory ossicles** intermediate between **malleus** and **stapes.** [Syn **anvil, anvil bone**] — Ger *Amboss*

indecency = conduct which contravenes the standards of the community in which it occurs, particularly in violation of certain social taboos [Applied most commonly to violation of intersex or intercaste conventions and to disapproved modes of dress, language, and (in primitive races) eating Contr w **decency** = conformity of conduct to standard, in these respects Cf **obscenity**] **indecent**[a] — Ger *Unanständigkeit*

indecision = an attitude, either normal or pathological, characterized by inability to select a course of action, with consequent inhibition of movements

indefensible = pert to conduct which, even when fully explained, is subject to social disapproval [Contr w **defensible**]

indefinite = not precisely specified or demarcated [Contr w **definite**] — Ger *unbestimmt*

independence = 1 absence of (known) causal relations between two data or sets of data, 2 an attitude of self-reliance or refusal to be dominated by others [(1) implies that the two data are not both due to the same cause, and that neither is caused by the other Cf **cause, condition.** Contr w **dependence** (in both senses)] **independent**[a] — Ger (1) *Unabhängigkeit*

independent invention = the independent origination of similar culture traits by two or more peoples [Contr w **diffusion, culture borrowing**]

independent phenomena = (*psych res*) any phenomena expressive of intelligence which occur independently of the physical agency of the **medium** or any other person [Typical forms are (*a*) voices through a trumpet, etc , (*b*) **psychography** = writing on paper, slates, etc , (*c*) **telekinesis**, or **levitation**]

indeterminate = 1 (*math*) characterizing (*a*) values which are not fixed, owing to lack of sufficient equations, or (*b*) expressions which are not amenable to specific evaluation, e g $\infty \times 0$ or $0/0$, 2 (*psychol*) ambiguous syn for **undetermined** or **undeterminable** [Contr w **determinate**]

indeterminism = 1 (*psychol*) the theory that man can act or choose reflectively in relative independence of given stimuli 2 (*biol*) the theory that some or all organic events are not necessary consequents of antecedent conditions [Syn (1) **libertarianism** (prefd), **free-will doctrine** Contr w **determinism**]

index = 1 any value which is deemed significant of class differences in biology or general science, 2 (*anthrop*) abbrev for **cephalic index,** 3 (*math*) syn for **exponent** or **root,** 4 (*anat*) the finger next to the thumb **indices**[pl] (2, 3), **indexes** (1, 4) — Ger (4) *Zeigefinger*

index of change = the blur of a perceptual experience, which occurs when one distinct impression changes continuously into another and serves as a basis for the judgment that a change has occurred (W Stern)

index of precision = a term proposed by F M Urban to denote the value of *h* of the **phi gamma hypothesis** for the method of constant stimuli, this value determines the steepness of the curves of the psychometric functions and hence indicates the homogeneity or precision of the several judgments [Cf **h, method of constant stimuli**]

indifference = 1 neutrality or balance between two opposing characteristics, such as pleasure and pain, 2 failure to appreciate an appeal, e g moral indifference, political indifference

indifference point = the zero or transition value between two opposing continua of experiences [In temperature sensations, measured by the range of values in centigrade units of stimuli which yield neither warmth nor cold sensations, cf **zero/psychological** In feeling, measured by the stimulus values intermediate between pleasantness and unpleasantness] — Ger *Indifferenzpunkt*

indirect = 1 by a longer path than the shortest possible, 2 through intermediaries [Contr (1) w **direct** = by a straight path, (2) w **immediate**]

indirect reflex = a crossed reflex, or a reflex induced by other than the usual source of stimulation

indirect selection, see **organic selection.**

indirect vision = visual experiences evoked by stimuli which fall upon peripheral (as contr w central) regions of the retina

individual = a single organism [Distg fr (*a*) the **social group,** (*b*) the **general type** of a species, (*c*) the **cells** which compose the organism N B In this dictionary used as syn w **human being,** unless specifically qualified] **individual**[a]

individual differences = deviations or variations in respect to certain characteristics which occur among the members of a group or in the same individual at different times [Contr w **group differences** Cf **differential psychology**]

individual psychology = 1 the branch of psychology which investigates differences between individuals, 2 the investigation of individual differences in the mode of striving toward the superiority goal (Adler) [Contr w **general psychology,** which investigates the average or type of the species Cf **differential psychology,** which embraces individual, group, and race psychology]

individual response = a type of response in association tests which is peculiar to an individual, as distinct from the nodal or community response, and yet is not of a personal nature [Cf **egocentric response**]

individual selection = the application of natural selection to competition between individual organisms, is distg fr competition between organs or parts or social groups — Fr *sélection entre individus*

individuality = 1 the organized sum-total of characteristics in any organism which distinguish it from any other, 2 that which distinguishes one person or thing from another [Distg fr **personality** (*a*) **individuality** may refer to any organism of a sufficiently complex structure, **personality** is strictly applicable to human organisms, (*b*) **individuality** attaches itself to any trait, quality, or manifestation of behavior (gait, voice, drinking, playing), **personality** relates to the whole complex of characteristics which make up the individual, (*c*) **individuality** is a differentiating concept with little or no implication of a standard, **personality** implies a positive standard and therefore allows of evaluation]

individuation = the differentiation or emergence of a specific and local activity out of general mass activity [Contr w **integration**]

individuation/law of = 1 the principle that parts come into existence from wholes through a process of individuation (Wheeler), 2 the principle that the behavior-pattern from the beginning expands throughout the growing normal animal as a perfectly integrated unit, whereas partial patterns arise within the total pattern and by a process of individuation acquire secondarily varying degrees of independence (Coghill)

induced color = a color or change in color which appears in a given portion of the subjective visual field, due not to direct stimulation of the corresponding portion of the retina, but to concomitant stimulation of other portions [Cf inducing color] — Fr *couleur induite*

induced emotion/theory of = 1 the theory that the perception of emotional behavior or expression is sufficient to excite the same emotion in the person who perceives it, 2 the theory that the stimulations to action by individuals in a crowd augment the activities of the entire group and vice versa [Cf (1) **sympathetic induction**, (2) is advanced to account for mob action] — Fr *t d'émotion induite*

induced hallucination = hallucination aroused in one individual by the suggestion of someone else [The phenomenon can be induced in the deeper stages of hypnosis, and is also frequently a symptom in certain toxic conditions] — Fr *h induite*

inducing color = (*vis*) a color-stimulus which induces a contrast effect [Distg fr **induced color**, the color that constitutes the effect] — Fr *couleur inductrice*

inductance = a property of an electric conductor or circuit which determines the extent to which electrical energy may be transferred between the conductor and the magnetic field surrounding the conductor [The unit is the **henry**]

induction = 1 (*logic*) the act or process of reasoning from particular to general, 2 the end result of such reasoning, 3 (*physiol*) the indirect arousal of some condition in an organism, e g color induction, 4 (*neurol*) a term applied to certain cases of facilitation between neural paths, usually where the regions showing facilitation are close together [Syn (4) **facilitation** Contr (1, 2) w **deduction**]

induction coil = an electrical device consisting typically of two concentric coils of wire wound about an iron core, one coil (the primary) usually contains a small number of turns of heavy wire, while the other (the secondary) is made up of a large number of turns of fine wire [A change of current in the primary induces in the secondary a current whose voltage is dependent upon the ratio of turns in primary and secondary coils By opening and closing the primary circuit with an automatic vibrator, an alternating current of high potential may be set up in the secondary circuit] — Fr *bobine d'induction*

induction/complete (or **formal**) = the affirmation in a single proposition, with respect to a class or group of phenomena, of what has previously been affirmed separately of each member of the group [Cf **enumeration, deduction**]

induction/cortical = an alteration in the functional activity of a point on the cerebral cortex as a result of excitation of some adjacent point [E g the influence of the cerebellum upon the precentral cortex]

induction/immediate spinal (or **direct spinal**) = the principle that if the dermal area from any point of which a certain reflex can be elicited, is stimulated at two points simultaneously, the response will be evoked even though both of the stimuli are subliminal (Sherrington) [This is summation on the final common path Cf **allied reflexes**]

induction shock = (*beh*) an induced electric shock given to an animal while in the performance of some task, in order to inhibit him from pursuing a certain line of action [One of the methods of punishment used in experiments on learning]

induction/successive spinal, /successive, /indirect spinal, see **rebound.**

induction/sympathetic = the setting up of emotions, ideas, or acts in an individual, which are similar to those manifested in his presence by another [Cf **imitation, contagion, social facilitation, induced emotion**]

induction test = a type of test in which the task is to derive a rule or principle from a number of particular instances given [Most commonly applied to a test devised by Terman and included in the 14-year tests of the Stanford-Binet scale]

industrial group = a collection of individuals pursuing the same economic occupation [Cf **industry** (2)]

industrial psychology = the branch of applied psychology which investigates the problems and situations found in the **industries** (2) — Ger *Wirtschaftspsychologie*

industry = 1 the characteristic or habit of steady and continued attention or devotion to any useful or productive occupation or task, either manual or mental, 2 a generic term applied to any or all systematic economic occupations (i e occupations concerned in furnishing means of livelihood, protection, social communication, etc) but exclusive of purely biological functions **industrious**[a] (1), **industrial**[a] (2) — Ger (1) *Geschäftigkeit*, (2) *Wirtschaft*

inebriety = habitual alcoholic intoxication [Syn **alcoholism** (prefd)]

ineffability = (*relig*) an experience, or a quality of experience, which is incapable of being expressed in words, specifically, the mystical ecstasy

inertia = 1 (*phys*) the resistance offered by a body to a change of its state of rest or of motion, 2 (*neurol*) a property of reflex conduction whereby a stimulus does not at once produce its full physiological effect, and whereby this effect to some extent persists after the stimulation ceases, 3 (*esth*) the principle according to which art perpetuates forms and structures which have under changed conditions lost their *raison d'être*, e g the *abacus* of a marble column, 4 (*psychol*) the tendency for mental processes to have a certain lag, to perseverate, 5 (*pop*) mental or bodily sluggishness, apathy, torpidity [Cf (2) **latency**] **inert**^{a}

inertia/sensory = the lag or tardiness of a sensory mechanism (i e receptor) in beginning to respond on the application of the specific kind of physical energy which is its adequate stimulus

inexistence = existing within, not actually, but by implication [Used in the phrase **intentional inexistence**]

infancy = 1 the earliest period of postnatal life in human beings (or other animals), during which the individual is wholly or almost wholly dependent upon parental care, usually applied only to the first two years, e g infant in arms, sometimes extended to include the whole period from birth to maturity, 2 (*anat*) the period from birth to assumption of erect posture, 3 (*legal*) the period from birth to legal majority **infant**^{np}, **infanthood**^{n} = the condition (rare), **infantile**^{a}. — Fr (1, 2) *enfance*, (3) *mineur*, Ger *Kindesalter*

infant psychology = the study of the mental life and behavior of infants [Cf **infancy**]

infantile^{a} = 1 pert to an infant or resembling the stage of infancy, 2 characterizing behavior on the part of an older child or adult which is like that shown by an infant or young child in similar situations (Last syll **-il** or **-ile**)

infantile amnesia = (*psychoan*) lapsed memory of certain early childhood experiences, due to later repression [They are frequently recalled under adequate analysis]

infantile birth theories = the notions of young children concerning birth [E g that babies come out of the breast, are cut out of the body, that the navel opens itself, the begetting of children through eating, or birth through the anal opening Cf **cloaca theory**] — Fr *t enfantines de naissance*

infantile complex = (*psychoan*) an emotional condition which occurs pathologically in adult life, when the usual outlet for libido is blocked, and as a result, has regressed to modes of behavior that are characteristic of childhood

infantilism = a condition of partly arrested development in man, characterized by mental retardation and usually by a stunting of bodily growth **infantile**^{a}

infection = invasion of the tissues of an animal or plant by a pathogenic organism, whose growth and toxins tend to injure the bodily tissues, thereby causing the symptoms of disease **infectious**^{a} — Ger *Ansteckung*

inference = 1 a judgment or conclusion which is reached from previously accepted judgments or premises and not from direct observation of data, 2 the mental process of reaching a conclusion indirectly **infer**^{v}, **inferential**^{a} — Ger *Folgerung*, *Schluss*

inferior oblique, -rectus, see **eye-muscles**

inferiority complex = (*psychoan*) a narcissistic wound or the psychical scars left on a wounded narcissism (Freud) [Syn **castration complex.** Cf **inferiority feeling**]

inferiority feeling = 1 a dominant affective attitude due to the inadequacy of some organ and often coordinated with an accompanying defect in the sexual apparatus and leading to neurotic behavior in varying degrees, according to environmental complications (upbringing, social relations, etc) and insufficient compensation (Adler), 2 the feeling of weakness and helplessness present in all infants, and characteristically reinforced through their repeated failures to command their environment as well as by their recognition of their physical limitations or blemishes [This *primary* inferiority feeling (2) is later complicated by the *secondary* inferiority feeling, the use of pretended weakness to achieve control of others through pity] — Fr *sentiment d'infériorité*, Ger *Minderwertigkeitsgefühl*

infinitesimal^{n} = a quantity which becomes and remains less than any defined value, however small, that may be assigned [Contr w **infinity**] **infinitesimal**^{a}

infinity = the limit which finite magnitudes approach as they grow greater and greater [Other characteristics than the magnitude which approaches the infinite limit may remain finite as the limit is approached Designated by ∞ or by ω Contr w **infinitesimal**] **infinite**^{a}

inflection = 1 a bending, as of the head or of a curve, 2 any modification in the form of a word which indicates grammatical modification, e g gender, possession, tense, number, etc , 3 (*vocal*) the rise and fall of pitch during speaking

influence^{n} = any prior condition which, in explaining the temporal succession of events, is considered as a factor in determining or leading to the later conditions **influence**^{v} = to play a part in determining an event **influential**^{a} (used only to characterize major factors)

information = 1 facts or ideas acquired by an individual in any manner, such as observation, experiment, reading, oral instruction, 2 (*hist*) implications concerning the content of consciousness (trans of Ger *Kundgabe*) as contr w the accurate introspective description of consciousness (*Beschreibung*) **inform**^{v} = to give information to another individual, **informatory**^{a} = yielding information, **informational**^{a} = pert to information

information test = a type of test designed to determine the testee's knowledge of facts, commonly of facts drawn from a variety of fields of information [E g Test 8 in Army Alpha Examination Syn **range of information test** Distg fr (1) tests of knowledge of specific subject matter (e g literature), (2) tests of capacity to learn (e g general intelligence tests), and (3) vocabulary tests, in which the test items are commonly selected by chance]

infraclavicular = pert to or located in the regions just below the collar-bone

infraconscious = characterizing the primordial psychic states from which consciousness has been evolved and which in the individual underlie consciousness in its marginal aspects (C L Morgan)

inframammary = pert to or located in the regions on the front of the body lying below the breast or nipple and above the hypochondriac regions

infraspinatus reflex = simultaneous outward rotation of the arm and straightening of the elbow, elicited by tapping a point on the shoulder-blade on a line bisecting the angle formed by the spine of the bone and its inner margin [Mediated by the 5th to 7th cervical segments of the cord]

infundibulum = (*anat*) a stalk arising from the forebrain under the cerebral hemispheres, by which the pituitary body is attached to the tuber cinereum — Ger *Hirntrichter*

ingestion = the process of taking substances into the body in mass

inguinal = pert to or located in the groin (Accent in-)

inherent = belonging to or existing in an object or person [Contr w **external,** which may be associated w the object but does not constitute an integral part of it, **intrinsic,** often used as syn , refers rather to *values*, while **inherent** refers to *qualities*] **inhere**[v], **inherence**[n] = the fact of inhering, **inherency**[n] = the characteristic

inherit = 1 (*biol*) to receive from a parent the capacity to develop characters similar to those found in this parent or in an earlier ancestor, 2 (*econ*) to receive property from the estate of a deceased person, 3 (*soc*) to acquire by imitation or instruction certain traditions, customs, etc , prevalent in the community [(1) and (3) are likely to be confused, it is advisable not to use (3) in psychol unless carefully denoted Cf **heritage**] — Fr *hériter*, Ger *erben*

inheritance = 1 (*biol*) the characters received by an organism from its ancestors, 2 (*econ*) property of any sort received by an individual from the estate of a deceased person [Syn **heritage** (applied generally to the total inheritance)] **inherit**[v] — Fr (1) *hérédité*, (2) *héritage*, Ger (1) *Erbschaft, Vererbung*

inheritance/alternative = (*biol*) inheritance in which one of two corresponding characters possessed by the parents appears in the offspring to the exclusion of the other

inheritance/blending = inheritance in which two characters of the parents combine in the offspring to produce a relatively stable character, usually of a more or less intermediate type, which is capable of being passed on to subsequent generations without segregation into its parental components

inherited[a] = derived from one's ancestors [Pref'd to **innate, inborn, connate, congenital,** which signify existence at birth (or earlier) but do not clearly designate derivation from ancestors, an **inherited trait** may not develop till long after birth (e g the reproductive functions) and would then strictly not be innate or inborn] — — Fr *hérité*, Ger *vererbt, angeboren*

inherited tendency, see **tendency/inherited**

inhibition = 1 (*physiol*) the partial or complete arrest of an already active function (esp of a muscular contraction), 2 that condition of a tissue or organ in which a function cannot be excited by the usual stimulus, 3 (*psychoan*) a mental condition which, through an opposing force, tends to check or prevent certain modes of expression, esp such as would expose to others the individual's thoughts or character [Syn (3) **repression, suppression**] **inhibit**[v], **inhibitory**[a] — Fr *inhibition, arrêt*, Ger *Hemmung*

inhibition/central = inhibition of nerve impulses at centers within the central nervous system [Attributed either (1) to Wedensky interference between the nerve impulses, or (2) to the presence in the centers of an active inhibitory substance Cf **habit interference**]

inhibition/reflex, see **reflex inhibition**

inhibition/retroactive = the tendency of a later formed association to impair a previously formed association [Distg fr **amnesia/retroactive**]

inhibitionism = the view that character is a function of the inhibition of instinctive tendencies

inhibitory nerve = a nerve, afferent or efferent, whose specific function is to arrest existent excitation in a nerve center or in any effector [There is some uncertainty as to whether the mechanism of this function lies wholly and specifically in the nerve]

inhibitory reflex = a reflex in which the previous activity of the effector organ is diminished or suppressed [E g decrease of tonus in the extensor muscles when the flexor muscles of a limb are thrown into reflex contraction]

initial delay = the pause or slowing down process immediately prior to the execution of a patterned movement

initial reflex = the earliest reflex evoked by a series of stimuli of increasing strength when the first stimulus is below the threshold value

initial spurt = a notably great expenditure of energy, or speeding up, observed at the beginning of certain muscular or other performances, which is followed by a slowing down to a level maintained with little fluctuation for some time — Fr *effort initial*

initiation = the setting of a movement or process into actual operation

initiative = 1 the action of an individual in starting a chain of events, e g a social movement, 2 ability or capacity for original conception and independent action

injury = 1 any damage inflicted upon an organism, 2 an impairment of structure or function not due to the ordinary biological processes [An injury may either affect the *structure* or may result in impairing some *function*] — Fr (1) *atteinte, blessure,* (2) *lésion,* Ger *Verletzung*

injury/current of = an electric current in tissue, which follows the rupture of cell membranes and is due to the difference in potential on opposite sides of the membranes [The point of injury is electronegative to other parts of the surface of the tissue Syn **demarcation current**] — Fr *courant de lésion*

ink-blot test = a test in which the testee examines a series of irregular figures, usually black on a white ground, and reports what objects or scenes he can imagine in the figures [The material commonly used consists of ink-blots Variety or speed of response is commonly the basis of scoring Cf **Rorschach test**] — Fr *t des taches d'encre*

innate = present in the individual at birth [Used as syn for **congenital** = present in the fertilized germ-cell, both terms usually imply inheritance, but not always Cf **connate**] — Ger *angeboren*

innate (or connate) ideas = certain fundamental or general ideas assumed to be present in the individual anterior to experience [The doctrine had its origin in the distinction between the data of sensation and the activity of the intellect The Stoics recognized some ideas as com-

mon to all minds (κοιναὶ ἔννοιαι notiones communes) and these were ultimately described as **innate ideas** The specific term seems due to Henry More and refers to religious concepts Descartes and others rejected this doctrine but claimed that intellectual faculties (not ideas) are innate After Leibnitz ("the mind is innate") the distinction of *a priori* and *a posteriori* (Kant) takes its place]

inner = 1 within the organism or body, 2 subjective [The antithesis **inner-outer** or **internal-external** is often confused by these two meanings, it is preferable to use (1) **intra-organic** vs **extra-organic** (or **environmental**) and (2) **subjective** vs **objective**] — Fr *interne*

inner ear, see **ear/internal**

inner psychophysics = the relation of sensory experience to the neural events upon which it is dependent [A concept proposed by Fechner (1860), and contr w **outer psychophysics**, which is concerned with the relation between stimuli and the consequent sensory experience] — Fr *psychophysique interne*

innervation = 1 the supply of efferent nerves which go to an organ (or to a single muscle, gland, or cell), 2 (less frequently) the nerves, both sensory and motor, which are supplied to any organ, 3 the excitation of an effector (muscle, gland) [Not to be confused w **enervation**] **innervate**[v] — Fr *innervation*

innervation feeling = (*hist*) a sensation formerly attributed to outgoing or efferent nerve impulses [The experiences in question are now generally attributed to the **proprioceptive** system, i e to stimulation of receptors in some muscle which contracts as a result of the efferent impulse]

inoculation = the introduction of disease virus, bacteria, or non-living proteins into an organism in order to produce disease or immune sera **inoculate**[v]

inorganic = 1 (*biol*) characterizing a body or substance which possesses no capacity for growth, or life, 2 (*chem*) designating a compound not containing carbon [Contr w **organic**, which is used also in other senses]

insanity = any form of mental disorder which renders the individual incompetent to act in accordance with the legal and conventional standards of his social environment [The term should not be used as syn for **psychosis**, but only for a medico-legal condition] **insane**[a] — Fr *aliénation mentale*, Ger *Wahnsinn, Irrsinn*

insecta, insects = a class of invertebrates belonging to the phylum *arthropoda* and distg fr other members of the phylum by the possession of only three pairs of legs when fully mature [Generally regarded as the highest invertebrates from the psychological point of view, ants, bees, and wasps are the insects which have been most frequently observed and experimented upon]

insensibility = 1 temporary or general absence of some given class or mode of sensation, 2 (*pop*) a state of unconsciousness due to swooning or to a blow on the head [Syn (1) **anesthesia**, (2) **coma** Not used, except in adjectival form, as antithesis of **sensibility**] **insensible**[a]

insight = 1 (*introsp*) the direct or immediate apprehension of form, meaning, or general truths, 2 (*Gestalt*) the sudden apprehension of meaning without reference to previous experience, as evidenced by the appropriateness of an organism's behavior (i e of its response to the given situation), 3 a peculiar characteristic, present in consciousness, which attaches to a belief that is based upon adequate evidence (Spearman) [**insight** (2) may be evidenced e g by a sudden drop in the learning curve Contr (2) w **automatized response**] — Fr *connaissance intuitive*, Ger *Einsicht*

insistence = a concurrence of two or more attributes of a sensation resulting in an attribute of a higher order (Stumpf, Titchener), or of two or more psychophysical processes resulting in a forced attention [A typical example is to be found in tones of high pitch (intensity and quality)] — Ger *Eindringlichkeit*

insistent idea = an idea which tends to recur persistently, even in connection with irrelevant circumstances [Syn **fixed idea** (prefd), **persistent idea**. Usually symptomatic of insanity]

insomnia = chronic inability to sleep — Ger *Schlaflosigkeit*

inspectionism = the practice of examining the genitals, usually of a heterosexual object [Syn **scopophilia** Cf **exhibitionism**]

inspiration = 1 an instantaneous grasping of the solution of a problem or of a proper method of procedure, or of the plan of a work of art, without the usual intermediate steps of association and reasoning, 2 drawing in of the breath [(1) is a loose term, indicating one's inability to trace the mental processes involved]

instability = 1 (*emotional*) liability to excessive, quickly changeable, and therefore inappropriate display of emotion, 2 (*nervous*) lack of effectiveness in those functions which involve organization, steadiness of aim, self-control [Syn (1) **emotionalism**] **unstable**[a]

instance = a sample case, cited from among collected data for illustrative purposes — Fr *exemple*, Ger *Beispiel*

instant = an exceedingly brief period of time, less than the limit of the **psychological present** [E g at the same instant = lying within the same psychological present] **instantaneous**[a] — Ger *Augenblick*

instinct = 1 an organized and relatively complex mode of response, characteristic of a given species, that has been phylogenetically adapted to a specific type of environmental situation, 2 (*hist*) a faculty or endowment of living beings which enables them to act in an adaptive manner apart from experience and learning, 3 (*psychoan*) the innate tendency to react to an emotional stimulus in a definite manner, thus bringing the stimulus under the influence of the three polarities which govern mental life [Contemporary uses of the term vary in all degrees between the extreme mechanistic meaning of a *response pattern*, and the extreme purposivist meaning of an *inner spring* leading to accomplishment of a certain biological end The term comes from Cicero through medieval Latin (instinctus = impulse) and originally implied that animals possess reason at the unconscious (i e unreflective) level] **instinct**[a] (or **instinctual**[a]) = pert to or characterizing instinct, **instinctive**[a] = pert to the response — Fr (1, 2) *instinct*, (3) *pulsion*, Ger *Trieb, Instinkt*

instinct defusion, see **defusion/instinctual**

instinct/delayed = an instinct which does not operate till some time after birth or hatching

instinct maturation = the development of the bodily mechanisms which underlie certain forms of behavior characteristic of a given species, so far as this development is the outcome of growth rather than of learning

instinct/transitory = an unlearned form of behavior which can be elicited only during certain portions of an animal's life [Applied particularly to certain forms of infantile behavior which disappear with growth, e g sucking]

instinctive = 1 pert to instinct, 2 innate, i e not individually acquired [Frequently used loosely as syn for **automatic, unthinking, unconscious**] **instinctively**[a]

instinctive behavior = any relatively complex response which is mainly determined (or so far as determined) by the creature's inherited constitution — Fr *comportement instinctif*

instinctive stimulus = (*hist*) a perception which arouses some normal, congenital mode of behavior [Cf James, Princ , i, 417]

instinctive tendency = a tendency to act so as to produce some generic type of result (usually having some biological utility), this tendency being due to inherited conditions, while the specific mode of behavior may be acquired (James) [E g the food-getting behavior in animals]

instinctual fusion = (*psychoan*) the theory that every mental process is the result of a fusion of the life instinct and the death instinct

institution = an organized mode of social behavior in some specific field or for some specific object, which has some degree of permanency or indefinite duration [E g the state, the church, a university Distg fr **a temporary organization,** such as a convention, parade, etc Sometimes includes such types of cultural behavior as language, number systems, etc]

instruction = 1 the systematic imparting of knowledge to others, 2 a command or advice given by one individual to another [(1) contr w **education** = reception of knowledge, (2) used in psychol to denote the experimenter's directions to the observer as to his mode of procedure] **instruct**[v], **instructional**[a] = pert to organized instruction, **instructive**[a] = inducing knowledge — Ger (1) *Unterricht, Instruktion,* (2) *Aufgabe*

instrument = (*psychol*) a self-contained device or mechanism which has some specific purpose and is used to assist in controlling or measuring stimulus or response [Syn **apparatus,** generally applied to more precise implements or to complex constructions]

instrumental error = a constant error in experimental data, due to some fault or inadequacy in the measuring instrument, e g a chronoscope which records longer time intervals than actually occur, a measuring rod which is too short

insufficient reason/principle of, see **equal distribution of ignorance**

insula, see **island of Reil**

insulin = the active product of the internal secretion of the islands or islets of Langerhans in the **pancreas** [An autacoid which is necessary for the normal metabolism of carbohydrates and whose deficient production leads to the condition of pancreatic diabetes A special proprietary product is termed **iletin**]

integer = a whole number

integral[a] = (*math*) related to integers or to integration

integral[n] = (*math*) the result of integration

integral/definite = (*math*) the result of integration between definite limits

integral part = an essential constituent of a complex whole, i e a part whose elimination would alter fundamentally the nature of the complex whole

integration = 1 the process by which material of any sort becomes organized, or systematically arranged, into units of a higher order, 2 (*neurol*) the combination and organization of neural excitations within nerve centers in such a way as to produce coordinated and adaptive activity, 3 (*math*) the process of summing up an infinite number of infinitesimals, 4 (*psychoan*) the orderly assemblage of psychophysical components into a harmonious and integrated structure [(1) is applied chiefly to organic composition and social organization, distg fr **coordination** and **organization,** in that the parts appear to lose [illegible] after integration, c[illegible] **integration** (3) [illegible] the two operations together are called **calculus** Cf (4) **primary integration** and **secondary integration**] **integrate**[v], **integral**[n] = the product of integration (3)

integration/neural (*or* ***nervous***) = the coordination of neural functions or of neural activity

integration/primary = (*psychoan*) the conscious recognition by the young child that his body is something apart from the environment

integration/secondary = (*psychoan*) the incorporation of pregenital components into a complete psychosexual unit

intellect = 1 the group of cognitive processes, more esp their higher forms, e g the discovery of relations, 2 the capacity to perform these mental processes [Cf **intelligence**] **intellectual**[a] = possessing a high degree of intellect, or employing intellect, **intellective**[a] = pert to intellect — Fr *intellect,* Ger *Verstand*

intellection = the process of forming concepts or judgments or the process of reasoning **intellectional**[a] (rare)

intellectual, see **intellect**

intellectual deficiency, see **feeblemindedness**

intellectual type = an individual who is preoccupied with abstract and theoretical problems rather than with social, political, industrial economic, or physical activities

intellectualism = 1 (*metaphys*) the theory that ultimate reality is of the nature of idea or intellect, 2 (*epistem*) the theory that knowledge is derived or deduced from reason alone, 3 (*psychol*) the theory which reduces all (other) phenomena to intellectual processes [Syn (1) **idealism,** (2) **rationalism,** (3) **associationism (associationalism)** Contr (1) w **voluntarism,** and **materialism,** (2) w **sensationism (sensationalism)** and **empiricism,** (3) w **hormic theory**]

intelligence = 1 the capacity of certain organisms to meet a novel situation by improvising a novel adaptive response, 2 ability to meet new situations quickly and successfully, 3 measured success in performance at tasks commonly called **intellectual,** i e arithmetical computation, completing verbal relations, etc [Hist contr w **instinct,** which emphasizes stereotyped forms of response At present, in animal

study, motor criteria are generally sought, in human study, both motor and intellectual criteria are used Cf **mental test**] **intelligent**[a] (not to be confused w **intellectual**). — Ger *Intelligenz, Klugheit*

intelligence measurement, see **measurement of intelligence**

intelligence quotient, I Q = the ratio of an individual's intelligence, as determined by some mental measure, to normal or average intelligence for his age [Of various possible forms of such ratios, the most common is mental age divided by chronological age (MA/CA) In practice the CA above a certain limit is usually assigned to that limit, e g in the Stanford-Binet test a chronological age above 16 0 is credited as being 16 0, since intellectual maturation is practically complete by this age]

intelligence scale = a series of graded mental tests, by which the grade of intelligence, or mental development, of an individual may be determined [E g the Binet-Simon scale] — Fr *échelle d'intelligence*

intelligence test = a problem or series of problems presented to an individual for solution, or a task or series of tasks assigned to be performed, with a view to determining the grade or level of the individual's mental ability [Intended to measure intellectual capacity, or native ability, rather than achievement resulting from formal instruction Contr w tests of non-intellectual traits, such as motor ability, attitudes, interests, etc Cf **mental test**] — Ger *Intelligenzprüfung*

intelligible = characterizing a statement or theory which is capable of conveying explicit meaning to the hearer or reader, or to the informed hearer or reader, so that at once or upon reflection it is judged to be either free from self-contradiction, or else plainly self-contradictory

intend[v] = 1 to set oneself toward an end or goal with clear consciousness of the end, and with purpose or desire to attain it, 2 to be consciously ready to strive for some defined goal as soon as favorable opportunity shall arise **intention**[n] (not to be confused w **intension** = in logic, the meaning of a term), **intentional**[a]. — Fr *se proposer, prétendre, avoir l'intention de*, Ger *beabsichtigen*

intension, see **connotation**.

intensity = the magnitude or degree of quantity attributed to a phenomenon, apart from its spatial or temporal value, i e the quantitative value of a sensory unit [Correlated in general with the force or intensity of the physical stimulus Cf **attribute**] **intensity**[a] (or **intensive**[a]) = pert to the phenomenon, **intense**[a] = pert to great intensity, **intensive**[a] = emphasizing completeness as, contr w extendedness — Ger *Intensität, Stärke*

intensity/cognitive, see **cognitive intensity**

intensity difference limen (or **threshold**) = (*psychophys*) that value of the comparison stimulus which is judged greater or less than a standard stimulus, with a probability arbitrarily chosen and statistically determined from a set of observations [Usually 0 75 when only two categories of response (greater, smaller) are employed, 0 50 when a third (equal or doubtful) is added] — Fr *seuil différentiel d'intensité*

intensity discrimination = a judgment in intensity between a standard and comparison stimulus

intensity theory of tropisms = the theory which assumes that the tropic orientation of an organism to a stimulus is due to unequal intensity of stimulation of symmetrical points on the body [Contr w **direction theory**]

intent = that which the giver of a suggestion or the performer of an act seeks or aims to accomplish indirectly by his suggestion or directly by his actions [Cf **aim, purpose**] — Ger *Absicht*

intentional = 1 performed voluntarily, not by accident, 2 of the nature of an intention or reference [For Brentano the distinguishing feature of psychical phenomena (e g acts of perception, acts of judgment, etc) is their **intention** of an object, i e their reference to an object Following scholastic terminology he expressed this view by stating that such phenomena involved the **intentional inexistence** of an object, i e the presence of an object, not as existent, but merely as intended, this is the theory of **intentionalism**, cf **act psychology**] — Fr *intentionnel*

intentional response = an explicit movement (e g closing eyelids, pressing key with finger, etc) initiated voluntarily by a subject after the occurrence of an expected stimulus in a controlled laboratory situation [Syn **voluntary reaction**]

intentionalism = a psychological theory (e g Brentano's) which defines the psychical as that which *intends*, or refers to an object [Syn **act psychology**]

interaction = a relation between two units or systems of any sort, such that the activity of each is in part determined by the activity of the other — Ger *Wechselwirkung*

interactionism = the theory which accounts for the factual concomitance of conscious and bodily processes by assuming a system of reciprocal causation

interbrain, see **diencephalon**

intercalation = (*speech*) verbal tic in which a given word is automatically and illogically interposed between syllables or phrases in speaking

inter-columnar correlation = the correlation between columns of coefficients in a table of correlations [Formerly used by Spearman as a technique for demonstrating equiproportionality in tables satisfying the conditions of **two-factor** division, now replaced by the **tetrad** criterion Cf **equiproportional table, hierarchical table**]

intercostal = pert to the region between the ribs (Accent -cost-)

intercourse = any reciprocal stimulation and response among individuals or groups [A vague generic term, including two specific notions **commerce** (= exchange of material), and **communication** (= exchange of ideas, etc)] — Fr *échange*, Ger *Verkehr*

intercourse/sexual, see **coitus**

interest = 1 a feeling which accompanies special attention to some content, 2 an attitude characterized by focusing attention upon certain cognitive data

interest-attitude tests, see **X–O tests**

interest/doctrine of = 1 the theory that all education should begin by a direct appeal to the immediate, present interests of the individual, 2 the theory that the aim of education is to awaken in the individual a many-sided interest (Herbart)

interest measurement = the technique of measuring an individual's interests, esp vocational [E g detailed questionary as to his interest in previous activities, checking of items as liked or disliked, and cross-out tests with content known to be related to particular interests]

interference = 1 a phenomenon which attends the combination of physical waves, visual or auditory, when two such waves in different [illegible] the same [illegible] of the [illegible]nsity of sensation, 2 in habit formation, the effect of learning two partly similar activities at once, such that the rate of improvement in each is diminished [Cf (2) **habit interference**] **interfere**[v]

interference/method of = a memory method in which the memory of one learned task is measured by the degree with which it interferes with the learning of a second task that involves new relations of the material of the first task [Contr w **method of savings**]

interference/psychic = a pathological phenomenon characterized by the checking of the normal response to suggestion through an antagonistic attitude on the part of the patient [Syn **blocking**] — Ger *Sperrung*

interference/sound = the mutual cancellation (partial or complete) of two or more sounds, which act simultaneously but in contrary directions on the same vibratory body or medium

interference tube = an acoustic conduit with one or more side-branches whose length is so adjusted as to render the system selective in the transmission of particular sound-frequencies [In the Quincke type the branch is re-entrant and has a length such that the difference between the lengths of main pathway and side-branch is one-half the wave-length of the sound-component to be eliminated In general, the difference between these paths may be any odd multiple of one-half the wave-length, or the sum may be any multiple of the wave-length] — Fr *tuyau d'interférence*, Ger *Interferenzrohre*

interjectional theory = the theory that spoken language arose from the automatic utterance of exclamations or ejaculations

intermediary nerve, see **Wrisberg/nerve of.**

intermediate category (or **categories**) = in the method of **single stimuli**, those reports which will decline in frequency as the upper category increases on one side, and as the lower category increases on the other

intermediate tone, see **intertone**

intermittence/tonal, see **flicker/auditory.**

intermittence tone = a tone produced by interrupting a tone of uniform pitch and renewing it, when such interruptions and renewals succeed one another at a very rapid rate, a secondary tone is produced whose pitch is determined by the rate of succession [The phenomenon (discovered by Koenig and Dennert) is analogous to the beats and difference tones produced by two simultaneous tones Syn **interruption tone**] — Ger *Intermittenzton*

internal = 1 (*psychol*) within the body of the organism, 2 (*anat*) as applied to the limbs, the side nearer the spine [Contr w **external**, these terms are sometimes confused in psychol with subjective and objective, in distinguishing sensory receptors, **internal** is sometimes contr w **peripheral**]

internal capsule = a band of nerve fibers in the brain, which pass between the thalamus and caudate nucleus on the one side and the lenticular nucleus on the other [The ventral part is efferent, the dorsal part is afferent]

internal ear, see **ear/internal.**

internal rectus, see **eye-muscles**

internal secretion = 1 a specific chemical substance formed by an endocrine gland and discharged into the circulatory fluid, 2 the process of forming and discharging an internal secretion (1) [Distg fr the secretion of a duct-gland, which is discharged onto an internal or external body surface Syn (1) **autacoid, incretion.** Cf **hormone, chalone**]

internal sense = any sense whose receptors are normally activated by stimuli arising within the body [A generic term including both **interoceptors** and **proprioceptors.** Distg fr **external sense**]

internal speech = the revival experience of vocal symbols whether actually uttered or not [From the behavioristic standpoint the non-uttered revivals are termed **implicit speech responses**]

international intelligence tests = a battery of tests devised by Brigham and Dodd, under the auspices of the National Research Council, and designed in such a way as to be as free as possible from the influence of linguistic and cultural inequalities [The instructions are unspoken, and the testee makes all responses manually by rotating disks of cardboard so as to bring drawings into proper relations with one another]

interoceptive system = the totality of nerves and receptors which lie and function in the internal organs of the body [Sometimes written **enteroceptive**]

interoceptor = a receptor or sense organ whose stimuli operate within the body of the organism [In general, **interoceptors** are associated with supporting tissues of entodermal origin Distg fr **exteroceptor** and **proprioceptor** Cf **receptor, nociceptor** Sometimes written **enteroceptor**] **interoceptive**[a]

interocular distance = the horizontal distance between the centers of the pupils of the two eyes

interpolation = the process of estimating a value or values intermediate between two given values in a series **interpolate**[v] (accent **-terp-**)

interpretation = 1 the arrangement or organization of data into a system, 2 the addition of meaning to the primary data of experience [illegible] plementary data Cf **Kundgabe**]

interpretation of dreams, see **dream interpretation**

interquartile range = the distance or range from the end of the 1st to the beginning of the 3rd quartile, i e the 75th percentile minus the 25th percentile [It is twice the quartile deviation Cf **quartile**] — Fr *écart interquartile*

interruption tone, see **intermittence tone**

interscapular = pert to or located in the middle of the back, between the shoulder-blades

interscapular reflex, see **scapular reflex**

intersex = an individual of a normally bisexual species which is intermediate between a male and a female [Syn **sex intergrade**]

intersubjective = pert to or characterizing a

mutual relation among a plurality of minds [Applied esp to intercourse by means of language]

intertone = a tone which appears under certain conditions when two primary tones are producing beats [The **intertone** has a pitch intermediate between the primaries, and its fluctuations of intensity constitute the beats Syn **intermediate tone**] — Ger *Zwischenton*

interval = 1 the amount of time between two limiting instants or events, 2 the extent of space between two objects or boundaries, 3 (*mus*) the difference in pitch between any two tones which are sounded together (harmonic interval) or successively (melodic interval), usually expressed as a ratio of two physical frequencies [A *true* (or *perfect*) *interval* (3) is that formed by two tones whose frequency ratio follows exactly a standard set by musical theory (i e a simple numerical relation), a *tempered interval* (3) is one that closely approximates the value prescribed by the theory of true intervals Cf **just intonation, scale** See Table VII] — Ger (1) *Zwischenzeit*, (2) *Zwischenraum*, (3) *Tonabstand, Intervall*

interval of uncertainty = a term applied by F M Urban to the range between the upper and lower limens within which no part of the psychometric functions for the difference judgments will assume a value as great as their value at the limens

interval/sense of = the ability of an individual to discriminate or to recognize differences of interval [Keenness of discrimination is expressed as a differential limen for a given individual and a given interval]

intestine = the membranous tube which extends from the stomach to the anus **intestinal**[a] (accent -tes-) — Ger *Darm*

intoxication = an abnormal condition of the organism, due to drugs or poisons (esp alcohol), having a great range of manifestations, both excitatory and stupefying [Metaphorically applied to the exhilarating effects of personal success, etc] **intoxicated**[a] = manifesting these symptoms, **intoxicant**[n] = a substance which produces intoxication

intracranial = within the **cranium** [Usually, within the brain, e g intracranial pressure]

intra-ocular modification = any modification in a visual stimulus which results from the peculiar structure of the eye [In addition to the formation of the retinal image, these modifications include such effects as scattering of light, selective absorption, fluorescence, and various refractive aberrations]

intrapsychic conflicts = (*psychoan*) the expression of an emotional tension between two opposing tendencies or wishes, which result from abnormally repressed mental processes

intraselection = a form of natural selection which arises from the competition in growth between various elementary vital units, cells, tissues, or organs of the body, resulting in survival of the most viable [Syn **histonal selection**]

intra-uterine = within the uterus or womb [E g intra-uterine life, behavior, etc]

intrinsic = characterizing the value (in any specific respect) of a given object or datum regardless of its relations to others [Contr w **extrinsic** = value due to its relations or setting Distg fr **inherent**, which applies to qualities rather than values, but often used as syn]

intrinsic eye-muscles, see **eye-muscles** — Fr *m intrinsèques de l'oeil*

introception = the adoption by an individual of social standards (e g morals and conventions) into his own personal system of motives and desires [Cf **socialization**, which indicates conformity of behavior rather than of purpose or motive]

introjection = 1 (*epistem*) the theory of the relation between cognition and the external world which holds that the individual consciousness is localized within a given organism and that external things are represented in consciousness by internal replicas or images of them, 2 (*psychol*) the ascription to inanimate objects of the characteristics of sentient or responding organisms, 3 (*psychoan*) the tendency or act of absorbing the environment or the personality of others into one's own psyche to the extent of reacting to external events as though they were internal ones, thus producing identification of oneself with other persons or objects [(1) originated with Avenarius, who combated the theory Cf **projection**]

introspection = 1 the contemplation or reflection upon an experience, either while in course or in memory, 2 observation from a psychological standpoint, leading to description, 3 the description of immediate experience in terms of elements and attitudes [(1) is the usual meaning of the term as employed by the Cartesians, Herbartians, English empiricists, and some recent psychologists, (2) is the equivalent of observation in the scientific sense, and is sometimes distg fr *Kundgabe* or comment Syn (2, 3) **observation, inspection** Cf **reflection** (2), **observation, introspective method**] **introspect**[v], **introspective**[a] — Ger (1) *innere Wahrnehmung*, (2) *Selbstbeobachtung*

introspectionism = the doctrine that the introspective method is the fundamental method of investigation in psychology [Cf **introspection, introspective method**]

introspective method = a method of psychological research based upon introspection [Cf **introspection**]

introspective psychology = 1 psychological investigation by the introspective method, 2 the body of knowledge whose facts are obtained by the introspective method, 3 syn for **introspectionism**

introversion = 1 (*anal psychol*) turning inwards of the libido and withdrawal of interest from the external world (Jung), 2 an attitude or type of personality in which one's psychic energy is directed toward oneself and one's own experiences [Contr w **extraversion**] **introvert**[n,v]

introversion-extraversion test = a test designed to measure the extent to which an individual tends, in his attitudes and behavior, toward the reflective, self-centered type, or the energetic, externally-minded type [The Colgate mental hygiene test is a typical example]

intuition = 1 immediate or innate apprehension of a complex group of data or of a general principle, 2 a judgment without known preliminary cogitation, the significant feature being the immediacy of the process, 3 (*psychol*) the final stage in the act of perceptive synthesis (rare) **intuitive**[a] = by the process of intuition, **intuitional**[a] = pert to the process, **intuit**[v]. — Ger (1) *Anschauung*, (2) *Verstehen*

intuitionism = 1 (*epistem*) the theory that knowledge of reality in general or knowledge of certain truths is immediate, 2 (*esth*) the theory that the beauty of a work of art is apprehended immediately in an attitude of contemplation, 3 (*ethics*) the theory that ethical law (i e the rightness or wrongness of given acts of conduct) is immediately known

invagination = the process of inpushing or folding of a surface layer of cells, which results in the formation of a cavity partially or completely enclosed by the layer

invalid[a] = characterizing an argument, conclusion, method, etc, as being not logically correct [Contr w **valid**] (Accent -**val**-) **invalidity**[n] — Ger *ungultig*

invalidate = to impair the force or logical value of an argument (Accent -**val**-)

invalidism = a condition of chronic ill-health [Applied esp to imaginary or exaggerated ailments] (Accent **in**-.)

invariability = the quality or condition of occurring in the same manner in every case, i e of remaining ever the same [Syn **changelessness**, cf **invariant**] **invariable**[a]

invariable color, see **color/invariable**

invariance = the tendency of an image to preserve its original size, however the distance of the projection ground may vary from the eye [Contr w **Emmert's law**]

invariant = 1 (*math*) a relation or property of the data or figure under consideration which does not change as linear transformations are made, 2 (less commonly) a relation or property which does not change when other types of transformation are made

invention = a new or original combination of material [In psychol applied to combinations of **imagery**, in technol applied to devices which yield some useful result Distg fr **discovery**, in which the material, or the combination, or some underlying principle already existing, is noted for the first time by some observer] — Ger *Erfindung*

inverse square law = (*psychol*) the principle that the intensity of a stimulus which reaches the receptor from a distant source, varies inversely as the square of the distance of the source from the receptor [The law applies to light, sound, heat, odor, etc, and is an instance of the general physical law which applies to influences emanating in straight lines from a center, e g gravitation Cf **illumination/law of**] — Fr *l de l'inverse du carre*

inversion = transposition of the order of certain members of a series [It is usually implied that the inverted is a departure from the true, normal, or usual order] — Ger *Umkehrung*, *Umstellung*

inversion/sexual = 1 the assumption by members of one sex, of the characters or role of the other sex, 2 (*psychoan*) a deviation in reference to the sexual object of the same sex, e g homosexuality [Cf **perversion**, **transvestism**] **invert**[np] (accent **in**-)

invertebrata, **invertebrates** = a general division of animal organisms, embracing many phyla, characterized by the absence of backbone or notochord [Contr w **vertebrata (vertebrates)** or more properly with **chordata**, which possess this character] **vertebrate**[a] — Ger *Wirbellose*

investigate = to examine a group of phenomena systematically, with intent to explain or understand them [Also used loosely to denote the examination of a vaguely defined situation, in order to discover what phenomena are involved] **investigation**[n] — Fr *rechercher*, *faire des investigations*, Ger *erforschen*, *untersuchen*

invisible = below the limen of vision or of visual discrimination, or incapable of being seen for any other reason

involuntary = characterizing a movement, action, or direction of attention which takes place despite the individual's effort to inhibit it [Often loosely used instead of **non-voluntary** = automatic or without volition] — Ger *unwillkurlich*

involuntary reaction (or **response**) **time** = a time interval between stimulus and response such as exists and may be measured for reflexes, both unconditioned and conditioned, and for secondary automatic actions [Cf **reaction time**]

involution = 1 (*pathol*) retrograde development of a tissue or organ, 2 the return of an organ to its normal condition after a physiological increase in structure or size, e g the involution of the uterus after pregnancy [Syn (1) **degeneration**] **involutional**[a]

ion = an electrically charged particle of atomic or molecular size [Cf **anion, cation**] (Accent **eye**-)

IQ = abbrev for **intelligence quotient**

iris = a flat, ring-shaped structure situate within the eyeball immediately in front of the lens, containing unstriped muscle-fibers whose contraction and relaxation regulate the amount of light admitted through the pupil or central opening which it encircles — Ger *Regenbogenhaut*

iris reflex = the reflex action of the iris muscles in regulating the size of the pupil [Mediated by the retina, optic tracts, oculomotor nerves for **constriction**, 1st thoracic, and cervical sympathetic for **dilation** Syn **pupillary reflex** (an obvious misnomer)]

irony = the use of language in the contrary sense to that which the speaker covertly implies, or the assertion of ignorance with a covert implication of superior knowledge [Syn **sarcasm**, generally a more offensive form] **ironic(al)**[a] = characterized by irony — Ger *Ironie*

irradiation = 1 (*vis*) the apparent excess in size of a visual stimulus of relatively high intensity, e g of a white figure on a black ground compared with an equal black figure on white, 2 (*neurol*) the diffusion or spread, from few to many neurons, of afferent nerve impulses as they travel through the central nervous system [(1) is believed to be due to a spreading of the excitation, or of its effect, to adjacent retinal elements (2) is probably accomplished by the branching of nerve fibers and by the stimulation, at synaptic regions, of new fibers] **irradiate**[t]

irradiation of conditioned reflexes = the phenomenon that when a response is conditioned to a certain (e g a cutaneous) receptor organ, stimulation of other (cutaneous) receptors, and esp those [illegible] licit the same [illegible] less vigorously [illegible]

irradiation of reflexes = the spread of reflex activity over a larger and larger field from the focus of reflex discharge [Cf **induction** (4), **allied reflexes**]

irradiation/reflex = the phenomenon that as the intensity of a stimulus which elicits a certain reflex is increased, not only is the intensity of that reflex response increased, but also a greater number of muscles and muscle groups become engaged in the response (Sherrington)

irradiation theory = a hypothesis, advanced in explaining learning, which assumes that excitation spreads into neighboring structures, such as nerves or muscles [It is assumed, as a corollary, that desirable variations of action may thus come about (trial and error learning, conditioning, etc) or that useless movements may result, which must later be eliminated]

irrational = contrary to reason or to the principles of logic [Syn **illogical.** Sometimes, but improperly, used as syn for **non-rational,** i e beyond the sphere of logic] — Ger *unvernünftig*

irrational reaction (response, conduct) = an act of behavior on the part of an individual who is capable of reasoning, which to the observer appears to be illogical or based upon false premises

irreciprocal conduction = the property possessed by reflex pathways (or more specifically by the synaptic membrane of these pathways) of transmitting impulses in one direction only, viz from telodendron to dendrite [This property presumably depends upon irreciprocal permeability of the synaptic membrane]

irrelevant = not pertinent to the problem under consideration [Applied to data or arguments used to support a conclusion when such data lie outside the sphere of discussion] **irrelevancy**[n] — Fr *sans rapport à, inapplicable,* Ger *belanglos*

irreversibility of conduction = the property of the reflex arc, or more specifically of the synapses within the arc, to conduct impulses only in the direction from receptor to effector [Syn **irreciprocal conduction** Contr w **reversibility of conduction** in nerve trunks]

irritability = 1 susceptibility to stimulation, 2 (*pop*) a mood characterized by anger or bad humor [In technical use (1) is fairly syn w **sensitivity,** but with no implication of an ensuing sensation Syn (2) **excitability. Irritability** is often listed as a fundamental characteristic of organic matter, or (in higher organisms) of nerve, receptor, muscle, and gland] — Ger *Reizbarkeit*

irritant = 1 an agent, chemical or physical, which produces an irritation or inflammation of tissue, 2 an excitant of irritable tissues

irritation = 1 the state of activity in living tissue when excited by stimulation, 2 the act of stimulation, esp the act of exciting muscle contractions, 3 physiological activity which produces a morbid or abnormal tissue condition, such as swelling and blistering, 4 a morbid state of oversensitiveness, in which ordinary stimulation produces pain or exaggerated response, 5 an emotional state aroused by continued stimulation which cannot be adequately reacted to, with consequent ill-temper, impatience, vexation, etc [Syn (1) **irritability** (prefd), **excitability,** (2) **excitation, stimulation** **irritate**[v].

island of Reil, insula Reili = an infolding of the cerebral cortex consisting of a series of 3 to 5 gyri which lie lateral to the lenticular nucleus in the depth of the Sylvian fissure and are covered by surrounding opercula [The **insula** is characteristic of the primate brain] — Fr *insula de Reil,* Ger *Insel*

islands of Langerhans = small cellular masses in the pancreas which elaborate the autacoid insulin (iletin) [Langerhans, E R, German histologist, 1847–1888]

island/tonal, see **tonal island** — Fr *îlot tonal*

isochronia, isochronism = 1 correspondence between two or more processes with respect to their time, rate, or frequency of occurrence, 2 having the same chronaxie (L Lapicque) [Contr w **heterochronia**] (Accent (1) **-kro-**, (2) **-sock-**.) **isochronous**[a] (accent **-sock-**), **isochronic**[a] (accent **eye-** and **-kro-**)

isolation = (*biol*) the separate existence of a group of organisms from others of the same variety or species [Two distinct forms noted are **geographical isolation,** in which the group is kept apart by some geographical barrier, and **biological isolation,** in which differences in seasonal maturity or in some character of the reproductive system prevents interbreeding Syn **segregation** (2)] (Accent **iss-** or **eye-**) **isolate**[v] — Ger *Isolierung*

isolation mechanism = (*psychoan*) a symptom peculiar to the compulsion neuroses, in which after an unpleasant event and also after any personal activity significant in the sense of a neurosis, a pause is interpolated in which nothing is to happen, and no action is carried out

isomerism = the characteristic of certain pairs of chemical compounds in that they contain the same molecules but with different arrangements of their constituent atoms (Accent **-som-**) **isomeric**[a] (accent **eye-** and **-mer-**)

isometric twitch = a muscular contraction in response to a single volley of nerve impulses, in which the muscle, owing to previous rigid fixation, is incapable of much shortening [Applied to a system of recording, in which the muscle pulls against a rigid spring, or torsion wire, as contr w **isotonic recording,** a mechanical system in which the muscle is made to lift a weight Cf **myograph**] (Accent **eye-** and **-met-**) — Fr *contraction isométrique*

isometropia = equality of the refractive condition of the two eyes [Contr w **anisometropia**] (Accent **eye-** and **-tro-**)

isomorphism = the structural correspondence of excitatory fields in the brain with the experienced contents of consciousness [The term and principle are used in *Gestalt* psychology] — Ger *Isomorphismus*

isoscope = an instrument devised by Donders for testing the **law of rotation,** it consists essentially of a pair of parallel vertical wires presented to one eye, and a single wire presented to the other and seen binocularly superimposed upon the pair, the single wire may be inclined one way or the other until it appears parallel to the other two (Accent **eye-**)

isotonic recording, see **isometric twitch**

isotropic = (*opt*) singly refracting, as contr w doubly refracting media such as calcite, etc

isthmus = the contracted part of the brain between the midbrain and hind-brain, marked dorsally by the decussation of the 4th cranial nerve and on the ventral aspect by the cephalic border of the pons [The term has little value Syn **midbrain** in older literature]

itch = 1 an irritating cutaneous and internal disorder, 2 a sensory experience which involves mild pricking-pain sensations, unpleasantness, and a persistent impulse to scratch — Fr *démangeaison*, Ger *Jucken*

item = a single fact or part of a group of data, isolated for purposes of separate examination

item of experience, item of consciousness = any single fact or portion of experience [A phrase used to avoid choice between structural and functional terminology]

J

j n.d = abbrev for **just noticeable difference**

Jacksonian epilepsy = a form of epilepsy, usually without loss of consciousness, characterized by localized spasm, which is mainly limited to one side of the body or one limb or part [Indicates usually irritation of motor area of cortex First described by Hughlings Jackson]

Jackson's law = the principle that when mental functions are impaired and lost through disease, the first to disappear are those which were the last to appear in the individual's development, i e that the order of degeneration is the reverse of the order of ontogenesis (J Hughlings Jackson)

Jacob's membrane, see **rods and cones/layer of**

Jacquet chronometer = an instrument designed to measure and record seconds and fifths of seconds, it consists of a clock-work mechanism which raises a recording stylus after each interval, at the same time indicating, by hands on two dials, the total period elapsed

James-Lange theory = the theory that in emotional experiences the stimulus first arouses a motor response, and that the experiencing of these organic responses constitutes the feeling [Formulated independently by Wm James (1884) and C G Lange (1885) in opposition to the intellectualistic view that the feeling precedes and arouses the motor responses]

Jastrow automatograph, see **automatograph**

Jastrow cylinders = a series of weights for measuring the limen of intensity and limen of discrimination for pressure and kinesthesis, they consist of hollow, hard-rubber cylinders, the ends of which can be opened so as to insert shot, etc , thereby adjusting the series to any desired grade of difference in weight [The cylinders are set on the palm for pressure experiments, and are grasped and lifted in experiments on kinesthesis]

Java man, see **Pithecanthropus erectus** — Fr *homme de Java*

jaw reflex, see **mandibular reflex** — Fr *réflexe mandibulaire, r masséterin*

jealousy = an emotional attitude, characterized by envy directed toward another individual, the specific ground of the emotion being the intimate relation of that individual to a third [Cf **envy**] **jealous**[a] — Fr *jalousie*, Ger *Eifersucht*

Jehovah-complex = (*psychoan*) a megalomanic fantasy of identification with God [Syn **God-complex**]

jellyfish = a popular descriptive name applied to the free-swimming stage of certain coelenterates, i e a medusa [The body is soft, umbrella-shaped, and semi-transparent] — Fr *méduse*, Ger *Qualle*

Jendrassik reinforcement (or **maneuver**) = a procedure for increasing the patellar reflex, in which the subject hooks his hands together by the flexed fingers and pulls vigorously [A form of facilitation]

job analysis = a systematic study of all the facts about a specific industrial occupation which have a bearing on selecting or training workers, or improving methods of work [Includes analysis of the work elements and description of duties, responsibilities, difficulties, working conditions, pay, opportunity for advancement, requisite personal qualities, education and experience, and critical scores in employment tests Results in a **job specification** or occupational description in which the findings are concisely formulated] — Fr *analyse de la profession*

Johns Hopkins chronoscope, see **Dunlap chronoscope**

joie de vivre = a loose term applied to the restless behavior which arises from surplus energy, when this behavior is accompanied by a pleasant feeling tone and general exuberance of motor expression [French, "joy of living"]

joint sensation, see **articular sensation**

joking relationship = the recognized right among some primitive peoples, of certain relatives by marriage to jocularize, defame, and deride one another in public with impunity, regardless of differences in age, sex, or rank

Jost's law = the principle that when two associations are of the same strength but of unequal age, repetition increases the strength of the older more than of the younger association [Cf **diminishing returns/law of, distributed repetitions/principle of**]

joule = a standard for measuring work, equal to 10,000,000 ergs [Cf **erg**]

journeyman = a tradesman who has completed his apprenticeship and is capable of working without supervision but does not possess the highest degree of skill [The trade hierarchy is **novice, apprentice, journeyman, expert**] — Fr *journalier*, Ger *Geselle*

joy = a sentiment or emotional attitude characterized by a pleasant feeling tone and related to events or experiences of the immediate present [Contr w **grief**, distg fr **satisfaction** = directed toward the past, and **hope** = directed toward the future] — Ger *Freude*

judgment = 1 the mental act of relating two concepts, accompanied by the belief or assertion of some objective or intrinsic relation between the two, 2 the application of a concept to a given situation or object [(1) is the usual meaning in formal logic (2) is more frequent in modern logic and psychology, the latter includes **appreciation** of a situation, **comparison** (in which the concept of greater or less is applied), and **evaluation** (in which reference is made to a series of standards of beauty, right, goodness, or economic worth) The formulation of a judgment in words is called a **proposition**] — Fr (1) *jugement*, (2) *appréciation*, Ger *Urteil*

jugglery, juggling, see **conjure** (1)

jugular = pert to or located in the throat (Accent joo- or jug-)

Jukes = a fictitious name given by R L Dugdale (1877) to a degenerate family in New York State, the record, extended by A H Estabrook (1915), includes 2,820 persons, half of them feebleminded

justice = 1 a situation in which a certain reward or deprivation is meted out to an individual as a fitting and equal exchange or exaction for the results of his own conduct toward another, 2 a subjective feeling or experience that fairness in reward or punishment has been accomplished, 3 a trait of an individual predisposing him to fairness in the bestowal of rewards or punishments upon others [Contr w **injustice,** where the reward or punishment is manifestly disproportionate or unsuitable to the act] just^a (not to be confused with **just**^{adv} = barely) — Ger (1, 2, 3) *Gerechtigkeit*

just intonation = the production of tones in their true or mathematically exact vibration ratios, as in the untempered scale [Contr w **tempered intonation** = in the scale of equal temperament Cf **scale, temperament** (2)]

just noticeable difference = the least difference in value between two stimuli which, in a given individual, gives rise to two different sensations, or which gives rise (statistically) to a perceived difference as often as it does not [Abbrev j n d Syn **just perceptible difference, least noticeable (or perceptible) difference, threshold of difference, limen of difference, minimal change** Strictly, j n d applies to the experience, **threshold** or **limen** to the statistical value] — Fr *différence juste perceptible*, Ger *eben merklicher Unterschied*

juvenile = pert to youth or young persons [Last syll -il or -ile] — Ger *jugendlich*

K

k = symbol for coefficient of **alienation**

kakon = the abnormal reaction in anxiety disorders (v Monakow)

Kallikak = a fictitious name given by H H Goddard (1912) to a New Jersey family which showed two lines of descendants a line of 496 persons, nearly all high-class citizens, and a line of 480, largely degenerate and feebleminded

kalotropic = characterizing the influence exerted by the observer's esthetic tastes upon the content of his images (esp eidetic images)

karyokinesis, see **mitosis**

karyoplasm = the protoplasmic substance of the nucleus of a cell [Syn **nucleoplasm** Distg fr **cytoplasm** = other protoplasmic substance of the cell]

kata-, see **cata-**

Kelvin scale = a temperature scale which is absolute in the sense of being independent of the properties of any particular substance [Devised by Kelvin on the basis of the equation of Carnot's cycle, which shows the temperature difference between two bodies measured in terms of work per cycle done by a perfect (reversible) heat engine taking heat from one body and discharging heat into the other The Kelvin scale starts from − 273° C as zero, and measures in centigrade units] — Fr *échelle de K*

Kent-Rosanoff test = a standardized free association test, described by Grace Kent and A J Rosanoff in 1910, consisting of one hundred stimulus words, supplemented by tables showing the frequency of different verbal responses to each word, whereby may be determined the percentage of common, individual, and doubtful responses made by a testee [Cf **association test**]

keratometer = 1 an instrument for measuring the curvature of the cornea of the eye, 2 an instrument used for measuring the diameter of the cornea, consisting of a small scale held before the observed eye and viewed through a system of lenses by which the error due to the difference in distances of the cornea and the scale is eliminated [Cf (1) **ophthalmometer**]

keratoscope, see **Placido's disk**

Kiesow's painless cheek-area = a small area on the inner surface of the cheek opposite the lower molars which has been found by some to be insensitive to pain while sensitive to cold, warmth, and contact — Fr *aire analgésique de la joue*

kilowatt, see **watt**

kindness = a type of behavior characterized by the promotion of another's welfare, without expectation of benefit to oneself **kind**^{a} — Fr *bonté, bienveillance*

kinephantom = a subjective response of misinterpretation of the direction or pattern of motion exhibited by a moving visual object, esp when seen in silhouette shadows [E g the familiar windmill illusion where the observer reports the appearance of the vanes turning in a direction opposite to that of the actual motion]

kinephantoscope = an instrument for projecting shadows or other stimuli which lend themselves to various movement pattern interpretations [Cf **kinephantom**]

kinesimeter = an instrument used for measuring thresholds of sensations of movement [The earliest form (1885) consisted of a small table, which could be placed over the forearm or other portion of the body, and which bore on a carriage driven by a **kymograph,** a stimulating point that moved over the skin at various controlled speeds]

kinesis = (*psychol*) movement of some member of the body resulting from muscular contraction [Rarely used]

kinesthesia, kinaesthesia = sensations attending movements of any members of the body which arise from stimulation of special receptors situate in the muscular tissue, joints, and tendons, the stimulus being some mechanical effect of the contracting muscle, or moving members [Usually applied to the sense, the data being called **kinesthetic sensations** Variant form, **kinesthesis,** which might be applied to the *sense*, using **kinesthesia** for the *sensation* Syn **weight sense**] (Accent **kin-**,) **kinesthetic**^{a}

kinesthetic memory = any memory which takes the form of **kinesthesis**

kinetic = pert to **motion.** [A term used in physics, not properly applicable to biological movement or response]

kinetic energy = the capacity for doing work which a body possesses due to its motion [Contr w **potential energy**]

kinetogenesis = the production of evolutionary changes through activity or functioning (Cope).

kinetoscope = an apparatus which uses the projecting photographic record of motion in such a way as to produce perceived motion on a **screen** [It mechanically presents to view the motion-picture film which has been originally exposed by the **cinematograph**]

kinetoscotoscope = an instrument for projecting on a screen the movement of bones in the human body, as shown by x-ray photographs

kinohapt = a type of esthesiometer used for presenting one or more tactual stimulations at precise temporal and spatial intervals, it consists essentially of small points set at various distances along a supporting rod, which are swiftly pressed upon the skin and released from it by magnets and springs [Devised by Benussi, 1913, to study apparent movement]

kinship = biological relationship between individual organisms, both consanguine and assumed, usually reckoned either in the maternal or paternal line, and including collateral relations — Fr *parenté*, *consanguinité*, Ger *Verwandtschaft*

Kirschmann's law of contrast = the principle that the saturation of a color induced by chromatic contrast is proportional to the logarithm of the saturation of the contrast inducing color

kleptomania, cleptomania = an irresistible, impulsive tendency to steal, usually the taking of unwanted objects

knee-jerk, see **patellar reflex**

knowledge = a type of experience which includes a vivid representation of a fact, formula, or complex condition, together with strong belief in its truth [The simple form of knowledge is **acquaintance** with, or **apprehension**, when to this is added thoughts of relations, meaning, etc the experience is called **comprehension** or **understanding**] **known**[v] — Fr *connaissance*, *connaître*, Ger *Kenntnis*, *Wissen*

Knox Cube Test = a non linguistic (performance) test, devised by H A Knox, in which the examiner places four small wooden cubes on a table and taps them with a fifth cube in various serial orders which increase in complexity, requiring the testee to repeat the same tapping [Sometimes called **cube imitation test.** Used originally for testing immigrants to the U S A]

Koenig cylinders = a series of short, solid, metal cylinders devised by A Koenig for determining the upper limen for tone [The tone is generated by striking the cylinder]

Korsakow's psychosis, Korsakow syndrome = a mental disorder, usually accompanying alcoholic or other polyneuritis, marked by disturbance of orientation through loss of retention, and by confabulations

Korte's laws = a set of statements which formulate the optimal conditions for apparent motion, where two (stationary) stimuli are given in succession

Krause end-bulbs = sensory end-organs found in the conjunctiva, cornea, glans, and in connection with some blood vessels [Considered by some investigators to be receptors for cold sensibility]

Kundgabe = statement about a mental process or event, contr w a direct description of it [Syn **commentary** Ger]

Kundgabe error = a misleading report by an experimental subject or observer, in that he includes information or knowledge about a datum of experience instead of reporting the descriptive characteristics of the experience [Logically the stimulus error is a special case of the **Kundgabe error**]

Kundt's rule = 1 the principle that divided or graduated distances appear greater than physically equal non-graduated distances, 2 the principle that in attempting to bisect a horizontal line in uniocular vision, there is a tendency to place the middle point too far toward the median (nasal) side — Fr *règle de K*

Kundt tube = an apparatus for determining the wave-length of sound from which the velocity of sound is calculated, it consists of a resonator tube containing a small amount of fine dust or powder, the tube is completely closed at one end and partially closed by a vibrating disk at the other end [When the air within the tube is excited by sound, and the tube-length is adjusted for resonance, the dust, being agitated more at certain points within the tube, arranges itself in a series of piles representing nodes in the stationary waves of sound, the distance between two adjacent piles of dust is one-half the wave length of the sound The resulting arrangement is called a **dust figure**]

kurtosis = (*statist*) a property of a frequency distribution, mainly of significance with reference to unimodal distributions, not concerned with (*a*) its central tendency, (*b*) its variability, or (*c*) its skewness, but with the relative frequency of parts at intermediate distance from the mean (the hips), to the remaining parts (the mode and the tails) of the distribution [If the frequency is relatively great at the hips the curve is **platykurtic**, if of average amount, as in a normal distribution, **mesokurtic**, and if small it is **leptokurtic** Pearson's **coefficient of kurtosis** = $\mu_4/\mu_2{}^2$, the fourth moment divided by the square of the second moment] — Fr *voussure*

kymograph = an instrument used to record the temporal variations of any physiological or muscular process, it consists essentially of a revolving drum, bearing a record sheet (usually of smoked paper) on which a stylus or penpoint travels to and fro at right angles to the motion of the cylinder, the drum is rotated by a mechanism at a presumably uniform rate, or the rate is indicated by a time marker which registers on the sheet [In some types the record sheet surrounds the drum, which rotates spirally, to allow a continuous record at different levels of the sheet, in other cases the record sheet is a long roll] (Accent **kime-** or **kee-**)

L

LS = abbrev for **liminal sensitivity** [Cf **DL, RL**]

labia[pl], **lips** = the fleshy folds which surround the orifice of the mouth or other orifices (e g vagina) **labial**[a]

labor (or labour) mobility = 1 the rate of movement of labor into and out of an industry, including not only replacements (labor turnover) but also increases or decreases of working force, 2 the ease with which workers shift from one occupation to another [Syn (1) **labor flux**]

laboratory = a room, building, or place designed or used for the pursuit of scientific research, esp experimentation [Distg fr **study (-room), class-room, lecture-room,** etc , which are designed for indirect research, through books, lectures, etc The first formal psychological laboratory was founded at Leipzig by W Wundt in 1879, and many other psychological laboratories in Germany and America were established

in the last two decades of the nineteenth century]

labyrinth, see **maze**

labyrinth/auditory = an organ of complex form enclosed within the petrous portion of the temporal bone, and containing the sensory receptors for hearing and equilibrium [It comprises two portions, the osseous or bony **labyrinth**, which consists of the ramified hollow spaces of the petrous bone, and the **membranous labyrinth**, a series of connected tubes and sacs situate within the bony labyrinth and roughly corresponding to it in form Syn **internal ear, inner ear** Cf **cochlea, semicircular canals, utricle, saccule**]

labyrinthine perception = the mode of experience which includes those sensory data resulting from stimulation of the semicircular canals and the vestibule, i e vertigo, dizziness, perception of rectilinear and rotary motion, etc [Often confused with data from other sensory fields, which modify labyrinthine stimulation Cf **static sense, vestibular system**]

labyrinthine righting reflexes = reflexes which depend on the labyrinth (vestibular organ) for righting the position of the head, or (when the head is in the righted position) for righting the position of the body [Mediated by the vestibular nerves, nuclei, vestibulospinal tracts, and nerves to neck and limbs, in cooperation with midbrain centers and medial longitudinal fasciculus]

labyrinthine sense = the static or equilibrium sense, whose receptor organ is the semicircular canals and sacs in the labyrinth of the ear [Cf **static sense** (prefd)]

labyrinthine system, see **vestibular system**.

lacrimal glands = glands secreting tears, located in depressions of the frontal bones [Their activity is related to various physical and mental conditions]

lacrimal reflex = an increased secretion of tears following irritation of the nasal mucous membrane [Mediated by V (sensory) and VII cranial, great petrosal nerves, and sphenopalatine ganglion]

lacrimation, lachrymation = the secretion and discharge of tears **lacrimal**[a].

lactation = 1 the feeding of infants from the breast, 2 production of milk by mammary secretion [Syn **suckling**] **period of lactation** = the period during which the infant is suckled

lacuna = a gap [Applied to certain data, elements, or parts, which are apparently needed to complete a report, an argument, a perceived object, etc] **lacunae**[pl]

Ladd-Franklin theory of color vision = a theory which assumes that in the retinal nerve-endings the respective light-stimuli liberate red-, green-, and blue-stimulating substances from a complex photosensitive molecule, and that, of these, red and green, when present, unite to form a yellow-stimulating substance, which may in turn unite with blue to form a white-stimulating substance [According to this schema blue and green, or blue and red, can not so unite, and so do not individually disappear in the respective blue-green and blue-red (or purple) mixtures, **dichromatic** vision is explained by the assumption of a less highly developed molecule, and for the **achromatic** or colorless vision of the rods the original molecule is still more primitive]

lag = the continuation of the sensory impression after the stimulus excitation has ceased — Ger *Nachdauer*

lagena = a portion of the auditory labyrinth of lower vertebrates, appearing as a more or less elongated diverticulum from the saccule, it contains an epithelial structure which is ramified by fibers from a division of the acoustic nerve, and which (in higher forms at least) is probably the specific receptor organ of hearing [The corresponding organ in mammals is coiled, and is called the **cochlea**]

lalling, lallation = reiteration of a sound or syllable, observed particularly in infants and idiots

lalopathy = any form of speech disorder [Speech defects have been divided into seven classes **dysarthria, dyslalia, dyslogia, dysphasia, dysphemia, dysphonia,** and **dysrhythmia**]

lalophobia = morbid fear or extreme dislike of speaking [Syn **glossophobia**]

lalorrhea, see **logorrhea**

Lamarckism, Lamarckianism = the theory of evolution propounded by J B Lamarck (1809), which assumes that some of the structural changes which occur in organisms through use or disuse of organs are potentially transmitted to the offspring [Distg fr **Darwinism,** which attributes evolution mainly to random variations and the survival of the fittest among such variations]

lambert = a unit of **brightness,** equal to the uniform brightness of a perfectly diffusing surface which emits or reflects 1 lumen per square centimeter [The **millilambert** (= 0 001 lambert) is often a more convenient unit]

Lambert's law = 1 (cosine law of *incidence*) the illumination on a surface varies directly as the cosine of the angle between the incident ray and the perpendicular to the surface, 2 (cosine law of *emission*) the intensity of the light emanating in a given direction from a perfectly diffusing surface is proportional to the cosine of the angle of emission measured between the perpendicular to the surface and the emitted ray [(2) applies to reflected and transmitted light, as well as to emitted light, but only for the case of a perfectly diffusing surface, which, however, is never more than approximated in fact Syn **cosine law**]

lamella = a thin, flexible plate or reed, used to produce deep tones [**Appunn's lamella** (or **reed**) is tipped with a circular disk to reduce higher partials, and is clamped to a standard at varying lengths to alter the frequency, it is used to determine the lowest (deepest) audible tone]

lamina terminalis = the anterior boundary of the 3d ventricle of the brain

lancination = 1 a sharp, piercing pain, 2 a tearing away or laceration

landmarks = a term applied to the sensory cues, of whatever sort, which assist an animal (human or subhuman) in orientation or in determining the location of its home or some other goal [Usually limited to visual cues] — Fr *points de repère*

Langerhans/cells of = a type of free nerve endings which terminate in the epithelium [They represent the oldest phylogenetic form of nerve end in the vertebrate epidermis]

language = any system of communication among beings, through conventional symbols [The chief varieties of language in the human species

are vocal (speech), graphic, and gesture] linguistic[a] — Fr *langue*, Ger *Sprache*

language behavior = behavior involving the use of symbols, as in speaking, writing, and gesturing

language center = a more or less circumscribed group of nerve-cells in the brain which is supposed to be essential to some phase of the language function [The existence of any such center or centers (as also of Broca's and Wernicke's speech centers) is disputed Cf **language**]

language function = the operation of the mechanism of communication in an organism, either as expression, or as reception, or both

languid, see **listless.**

languor, languour = a complex of organic and general sensations accompanied by neuromuscular relaxation and disinclination to motor activity [Syn **lassitude**, which applies more properly to the neuromuscular condition] — Fr *langueur*, Ger *Mattigkeit*

larva = an immature but active stage of development in which the organism is radically different in form from the adult [E g the free-swimming stage in the development of many worms, mollusks, and crustaceans, a caterpillar = the larva of a butterfly or moth]

laryngeal reflex = coughing produced by irritation of the larynx or fauces [Mediated by X cranial, 4th cervical, and thoracic nerves]

laryngeal tones = tones uttered in singing which are varied by different adjustments of the larynx

laryngograph = a device for recording movements of the larynx esp in speech, usually by means of a tambour pressed against the larynx [Several forms are in use, including Piltan's, Zund-Burguet's, Rousselot's, and Zwaardemaker's] (Pron -go-, not -jo-)

laryngopharynx, see **pharynx**

larynx = an organ situate in the upper part of the windpipe or trachea, consisting of a cartilaginous box across which are stretched the vocal cords, which are set in vibration by the passage of air from the lungs and produce vocal sounds [It is the essential organ of speech and singing] **laryngeal**[a] (accent -rin-) — Ger *Kehlkopf*

lassitude = a state of neuromuscular relaxation, not due to fatigue from overexertion, accompanied by a disinclination to neuromuscular activity [Syn **languor**, which applies more properly to the accompanying sensation]

latah, lattah = a mental disorder characterized by high suggestibility, intermittent course, sexual content, and hallucinations [Esp prevalent among Malay adult females]

latency = 1 (*physiol*) the condition of apparent inactivity between the moment of stimulation of any tissue or function, and the beginning of its response, 2 (*hist*) subconsciousness [More often used in adj form, e g latent period (1), latent memory (2)] **latent**[a] = hidden — Ger *Latenz*

latency period = (*psychoan*) the period of life between the ages of 4 or 5 and ca 12 years, which separates the infantile or pregenital sexuality from the beginning of puberty or genital sexuality and in which the sexual manifestations are as a rule less prominent [Syn **latent sexuality**]

latent (dream) content, see **dream content**

latent period = the time elapsing between the application of any stimulus and the beginning of a response [Cf **latency** (1)] — Ger *Latenzzeit*

latent process = a subliminal neural or mental process (*a*) intervening between two supraliminal events, or (*b*) preceding a supraliminal event [E g (*a*) applies to the hidden changes between the futile voluntary effort to recall a name and the later intrusion of the name into consciousness when it is irrelevant, and (*b*) applies to the hidden associative process, following (e g) a subliminal odor of the smoke from Bohemian coal, that issued in an hallucinatory vision depicting a Bohemian scene Syn **unconscious cerebration**]

latent time, see **latency** (1)

lateral[a] = pert to or located on the side of the body **laterad**[adv]

lateral axis, see **dextrosinistral axis**

lateral line canal (or **organ**) = an organ present in fishes, situate in the lining of the groove which runs longitudinally along each side of the body, terminating in three head branches [Some hold that it is stimulated by water vibrations intermediate in frequency between those required for contact and for audition, others hold that it is stimulated by streaming movements of the water]

laughter = an emotional or social response consisting in violent convulsive movements of the diaphragm and noisy expulsion of air from the lungs [Generally stimulated by situations which arouse an idea of incongruity, feeling of superiority, sudden relief of tension or expectation, etc, and a pleasant feeling tone Also evoked as a social expression of approval, agreement, happiness, or as a means of deception Usually accompanied by a facial response called smiling] — Fr *rire*, Ger *Lachen*

law = 1 the verbal statement of a more or less fundamental uniformity found in nature, 2 (*hist* and *pop*) an assumed active force or agency which brings natural phenomena to pass, 3 (*soc*) a rule of action prescribed by duly constituted civil (or other) authority as a means of social control [Cf **principle**, for specific laws, see each particular title] (3) **lawful, legal**[a] — Fr *loi*, Ger *Gesetz*

layer of rods and cones, see **rods and cones/layer of** and Table XI — Fr *couches des batonnets et des cônes*, Ger *Stabchen- und zapfenschicht*

leadership = (*soc*) the role of one individual as initiator, director, or organizer of group activities in a community or herd [**leadership** depends on attitudes and habits of **dominance** in certain individuals and **submissive** behavior in others Distg fr **headship**, a form of authority determined by caste, class, or other factors than popular selection or acceptance] **leader**[np] — Fr *direction, qualite de chef*, Ger *Fuhrerschaft*

leading tone = (*mus*) the seventh note of a scale which is said to lead or make a transition to the principal or tonic note immediately above it — Fr *la sensible, note sensible*, Ger *Leitton*

leakage = (*psychoan*) any discussion by an individual of his own analysis with a person other than the analyst during the analysis — Fr *effluence*

learning = 1 the process of acquiring the ability to respond adequately to a situation which may

or may not have been previously encountered, 2 the favorable modification of response tendencies consequent upon previous experience, particularly the building up of a new series of complexly coordinated motor responses, 3 the fixation of items in memory so that they can be recalled or recognized, 4 (*Gestalt*) the process of acquiring insight into a situation [In general, (1) and (2) are applied to the acquiring of combinations of responses which enable the individual to cope more economically with a complex or variable situation, in these senses **learning** is a more inclusive term than **habit formation** Progress in learning is measured in terms of efficiency, i e by some criterion of performance, such as speed, freedom from error, complexity of coordination, economy of effort, or perfection of form] — Fr (1, 2) *apprentissage* (= motor), (3) *acquisition* (= mental), Ger *Lernen*

learning capacity = the efficiency of an individual in learning, relative to that of other individuals [There is implied a maximal limit for the individual in question] — Fr *capacité d'acquisition (d'apprentissage)*, Ger *Lernfahigkeit*

learning coefficient = the theoretically expected ratio of right to wrong choices at any given bifurcation, or pair of alternatives, in the maze [The backward elimination of errors in the learning of a mental maze, which is free from disturbances by space factors, has been attributed to the gradual decrease of the **learning coefficients** from the final, backward to the first coefficient] — Fr *coefficient d'acquisition (d'apprentissage)*

learning curve = a graphic representation of certain aspects of progress in ability during successive periods of practice, in terms of equal time or of equal accomplishment units [Syn **curve of learning, practice curve**] — Fr *courbe d'apprentissage (d'acquisition)*, Ger *Lernkurve*

learning/insight in = that stage in the learning process in which grasp of essential relations is evidenced by sudden improvement in the mode of response [Cf **insight**] — Fr *connaissance profonde dans l'acquisition*

learning/laws of = various formulations of principles according to which the process of learning is explained or described [Cf (**law of**) **combination, effect, exercise, frequency, readiness, recency, assimilation** A single law may be advanced to account for all learning, or several principles may be assumed to cooperate] — Fr *l d'acquisition (d'apprentissage)*

learning/theories of = various attempts to account for learning or acquisition of habits in terms of certain processes, often of a physiological nature [Cf **drainage theory, irradiation theory, overlapping of responses**] — Fr *t de l'acquisition (de l'apprentissage)*

learning types = types of individuals as distinguished by certain characteristics of their learning processes, such as the rate and course of learning, or the sense mode most effectively used in learning — Fr *types individuels dans la capacite d'apprendre*

least noticeable (or **observable**), see **just noticeable** (prefd as indicating the limen or threshold, rather than some value beyond it)

least resistance/line of = an expression taken from physics and applied metaphorically to the course of action, on the part of an individual, which meets with the fewest social objections or general environmental obstacles — Fr *ligne de moindre résistance*

least squares/law of = (*math*) the principle that for a series of unknown quantities, the most acceptable values are those which make the sum of the squared residual errors of the observations a minimum [Residual errors are differences between observed values and calculated values, the latter being determined upon the assumption that the true relation between the variables is best expressed by a mathematical equation] — Fr *l des moindres carrés*

least squares/method of = a method of curve-fitting in which the sum of the squares of the differences between (*a*) the points to be fitted (observed values) and (*b*) the corresponding points on the fitted line (theoretical values) is a minimum [In determining this sum, each point is weighted by the number of cases represented by it] — Fr *m des moindres carrés*

left = that side of any animal which, if the animal faces the rising sun, lies to the north [Contr w **right**] **left**[a], **sinistral**[a] — Fr *gauche*, Ger *links*

left-handedness, see **sinistrality.**

legend = 1 (*anthrop*) a tradition concerning some noted historical personage, group, or place, 2 (*typog*) the explanation appended to a cut or illustration in a volume [Distg (1) fr *myth*, which lacks historical basis and usually deals with some fanciful personage or personification] **legendary**[a] (1).

legerdemain, see **conjure** (1).

legibility = that characteristic of printed or written material which determines the speed and accuracy with which it may be read [In typography it depends on such factors as type face, length of line, upper or lower case, lead (i e space between lines), and general arrangement] **legible**[a]. — Fr *lisibilité*, Ger *Lesbarkeit*

legitimate = 1 characterizing any reasoning which accords with the principles of logic, i e which yields valid or reliable conclusions, 2 characterizing offspring born to wedded parents [Contr w **illegitimate**] **legitimacy**[n]. — Ger (1) *berechtigt*, (2) *ehelich*

Lehman acoumeter, see **audiometer**

lemmocytes, see **neurilemma cells.**

lemniscus, see **fillet.**

lens, crystalline lens = the transparent body, convex on its front and back surfaces, situate just behind the iris and pupil of the eye, it serves, through changes in its shape brought about by the action of the ciliary muscles, to focus the eye for different distances — Fr *cristallin*, Ger *Linse*

lenticular nucleus = the lateral portion or nucleus of the corpus striatum of the brain [It is embedded in the white matter of the cerebral hemisphere Cf **caudate nucleus**]

lenticular papilla, see **papilla.**

leptokurtic, see **kurtosis.**

leptosome = a person having a slender or asthenic physique

Lesbian = a homosexual woman

lesion = 1 (*pathol*) any morbid change in living organs, 2 in general, any injury or wound in any part of the body — Ger *Verletzung*

lethargy = (*hist*) a condition held by Charcot to form a stage in **hypnosis** (others being **catalepsy** and **somnambulism**), characterized by neuromuscular hyperexcitability, some anesthesia, and muscular flaccidity

letter square = a group of letters placed in rows and columns in the form of a square, and used as a memory test to determine the number of separate items reported (and correctly located) after a brief exposure — Fr *carré de lettres*

leucocyte = a white blood-corpuscle

levator = any muscle concerned in lifting a member [E g **levator palpebrae superioris** = for lifting the upper eyelid] (Accent -vay-)

level = 1 the general field or background in which a quality appears, 2 (*psychophys*) the state of sensitivity of a receptor as measured in relation to the threshold value, 3 (*physiol*) a center for combining various impulses so that more complex reactions are possible, e g degrees of integration are often designated as first, second, and third (or spinal, brain-stem, and cortical) levels [Cf **attention levels**] — Fr (1, 2) *niveau*, (3) *étage, niveau*, Ger (1) *Niveau, Lage*, (2) *Zustand*, (3) *Stufe*

levitation = 1 the power of rising in the air without material support, as experienced in dreams or attributed to spirit mediums, 2 (*psych res*) movement of ponderable objects against either friction or gravity under conditions that are assumed to exclude known forces [Syn (2) **telekinesis**]

libertarianism, see **free-will doctrine**

libertinism = unrestrained and promiscuous indulgence, usually of a sexual nature [Conventionally applied to males, but admitting of generalization]

lid reflex, see **corneal reflex** and **winking**

libido = 1 (*psychoan*) sexual desire or energy, 2 the dynamic expression or aspect of the sexual instinct which may attach itself to the ego or to external objects or persons, 3 sexual desires and longings in their various aspects, 4 psychic energy irrespective of the object upon which it acts (Jung) [(1) corresponds to the popular concept **love**, and in this broad sense is akin to **psychic energy** (Jung), (2) includes several types e g ego libido, object libido, mother libido (3) corresponds to hunger as applied to the nutritional instinct, and might be rendered as **craving** or **sexual hunger**] (Pron **lib-ee'do**) **libidinal**[a] (accent **-bid-**)

libido/bisexual = (*psychoan*) a fixation of the sexual impulse on both masculine and feminine, thus lacking, at least in its conscious aspect, the character of sexual exclusiveness [Characteristic of childhood and also of certain cases of homosexuality Cf **psychosexual hermaphroditism**]

libido damming = (*psychoan*) the thwarting of the psychosexual element in the individual — Ger *Libidostauung*

libido development = (*psychoan*) the various stages through which the psychosexual development of man progresses from its earliest pregenital phases to that of complete genital organization — Ger *Libidoentwicklung*

libido/object, see **object-choice.**

lie, see **lying** — Ger *Lüge*

lie detector = a sensitive instrument for indicating, during the course of an examination, certain physiological changes correlated with marked changes in emotional tension of a person suspected of crime or deceit, for the purpose of revealing suppressed knowledge or incriminating facts and inducing, if possible a frank confession, the instrument may be a **sphygmomanometer** for measuring changes in blood pressure, a **pneumograph** for use in determining the inspiration-expiration ratio, or a **galvanometer** for indicating changes in electrical potential of the body or bodily resistance to an electric current — Fr *machine à arracher des aveux*

life = 1 the group of processes (metabolism, growth, response, reproduction, etc) which take place in organisms and distinguish them from other material objects (or systems) and which, by their coordinated operation, serve to maintain the individual as an organism, 2 a specific factor or causal agent which is assumed (according to certain biological theories) to operate in every organism and thereby maintain the existence of the individual as an organism [Cf **organism**] **live**[v], **living**[a] = possessing (1) life-processes or (2) life, **vital**[a] = pert to life — Fr *vie, vivre*[v], Ger *Leben*

life instinct = (*psychoan*) the antithesis of the death instinct, in the sense of reproduction and the preservation of life [Syn **libido, sexual instinct**] — Fr *instinct de vie*

light[a] = 1 having relatively high brilliance, as applied to a color, or high illumination, as applied to a room, etc , 2 having a relatively slight degree of weight [Contr (1) w **dark,** (2) w **heavy**] — Fr (1) *clair*, (2) *léger*, Ger (1) *hell*, (2) *leicht*

light[n] = 1 (*phys*) radiant energy of those wave-lengths which act as adequate stimuli to the visual sense, i e 390 to 760 mμ, by extension, radiant energy of the wave-lengths in adjoining regions of the spectrum, i e ultraviolet or infra-red light, 2 (*photom*) syn for **luminous flux** [It is transmitted through space at the rate of ca 300,000 km per second Cf **radiant energy**] — Fr *lumière*, Ger *Licht*

light-adapted eye = an eye which has been exposed to light stimuli of relatively high intensity and has so become relatively insensitive to lower intensities [Cf **adaptation**]

light dread, see **photophobia**

light-induction/simultaneous = the effect of stimulation from one part of the visual field upon the conscious experience referred to another part [**simultaneous contrast** is one such phenomenon, but **induction** covers the cases in which the effect is in the same sense as the direct effect of the stimulus] — Fr *induction simultanée de lumière*, Ger *simultane Lichtinduktion*

light sensation = a type of sensation whose proper stimuli consist of radiant energy of wave-lengths approximately 400 to 760 millimicrons and whose receptor is the eye or some equivalent organ [Usually applied without reference to **hue** Sometimes used incorrectly for **achromatic sensations.** Cf **vision**] — **Fr.** *s lumineuse*, Ger *Lichtempfindung*

light waves = luminous radiant energy, when regarded as an undulatory or wave-like phenomenon, i e the transverse electromagnetic disturbance (sometimes considered to involve a physical medium called the ether) which serves as a stimulus for the visual receptors [Cf **wave**] — Fr *ondes lumineuses*, Ger *Lichtwellen*

likelihood = the degree to which a given hypothesis is confirmed by sample values experimentally obtained [The likelihood that any parameter (or set of parameters) should have any assigned value (or set of values) is proportional to the probability that if this were so, the totality of

observations should be that observed, more precisely, the likelihood of a hypothesis is proportional to the probability on that hypothesis of obtaining a known sample The factor of proportionality is arbitrary, but is the same for all hypotheses Distg fr **probability** = the degree to which, under a given hypothesis, an empirical sampling may be expected to conform to the total distribution prescribed by that hypothesis] likely[a, adv] — Fr *vraisemblance*, Ger *Wahrscheinlichkeit*

likeness, see **resemblance, similarity**

liking = an attitude characterized by pleasant feeling tone, aroused by social situations or general stimuli [Used vaguely to cover all degrees Contr w **dislike**] like[v] — Fr *aimant, aimer*[v], Ger *Zuneigung*

limen, see **threshold** (Accent **li-**) **liminal**[a] (accent **lim-**.) — Fr *seuil*, Ger *Schwelle*

limen gauge = an instrument devised by M von Frey for presenting pressure stimulation to the skin at regulated speeds of application, it consists essentially of a pressure point attached to a lever which is actuated by a clock spring, the intensity and speed of stimulation depend on the tension exerted upon the spring by a second lever which is displaced to different extents and at different rates by a revolving drum — Fr *appareil pour mesurer le seuil*

liminal sensitivity = degree of sensory acuity, as expressed by the lowest value of a given stimulus which gives rise to sensation [Abbrev **LS**, the term is generally used in respect to intensity, contr w **terminal sensitivity (TS)** = the greatest value which gives rise to a more intense sensation, distg fr **differential sensitivity (DS)** = the ratio of difference between two stimuli which are just distinguishable in intensity] — Fr *sensibilite liminaire*

limit = 1 the first or last value of a series of values, or the end value of a mathematical function, 2 the boundary of a sense-continuum or of a series of stimulus-magnitudes [Receptive tissue responds to energy within certain bounds of frequency or intensity but not to energy outside those limits] **limitative**[a] = pert to the limit-value — Ger (1) *Grenze*, (2) *Grenzwert*

limiting membrane/external = a part of the supporting tissue of the retina, the 3rd stratum from without inward [See Table XI]

limiting membrane/internal = a part of the supporting tissue of the retina, the 10th or innermost stratum [See Table XI]

limits and differences/combined method of = a psychophysical method devised by Kraepelin, which combines the procedure of these two methods, it consists in first obtaining judgments in accordance with the method of limits, and then treating them statistically in accordance with the method of right and wrong cases [The method enables a finer determination of the threshold value than is obtained by either method separately]

limits/method of = a psychophysical method of investigation, which proceeds by gradually decreasing the value of a given stimulus (or the difference between two stimuli) till it is no longer noticeable, and also by increasing the stimulus value (or the difference between two stimuli) from zero until it becomes just noticeable [The limit, or limiting value, lies between the two values thus determined Syn **method of minimal changes, of least differences, of just noticeable differences**] — Ger *Grenzmethode*

limits of audibility (or hearing), see **audibility limits**

limma = a musical interval [The Pythagorean limma is the difference, or "defect" of two perfect major tones (408 cents) from a perfect fourth (498 cents) = 90 cents, or 90 tempered semitones See Table VII]

line = 1 the path of a moving point, characterized by length but not breadth or thickness, 2 a one-dimensional, non-curved continuous series [Syn (2) **straight line**] **linear**[a]

line of beauty = a serpentine line regarded by Hogarth as the most beautiful shape

line of direction, see **direction/line of.**

line of fixation, see **fixation/line of**

line of regard, see **regard/line of**

line-quality/graphic = habitual minor variations in pen-pressure [An individual characteristic, of importance in identification of handwriting]

line/sighting, syn for visual axis

line/spectral, see **spectral line.**

line/visual (or **of vision**, or **of sight**) see **visual axis** and **direction/line of**

linear correlation, see **correlation** (3)

linear transformation, see **transformation** (2).

lingual gland = a type of gland located on the tongue [The posterior lingual glands secrete a serous liquid which is found in the moats of the circumvallate papillae and probably serves to wash out the taste buds The anterior lingual glands, situate near the top of the tongue, are non-serous or mixed glands]

linguistic, see **language.**

linkage = 1 (*biol*) the tendency of characters to remain associated in hereditary transmission, as contr w independent or random assortment, 2 (*psychol*) the connection between stimulus and response — Fr (1) *enchaînement, association hereditaire* (2) *lien*, Ger *Verkettung*

linked characters = characters which are associated in inheritance — Fr *caractères enchaînes*

lip-eroticism = 1 the complex of sex sensations induced by kissing, 2 excessive sex sensations induced by kissing or other forms of stimulation of the mouth region — Fr *erotisme labial*

lip-key = a response key for reaction time, consisting of two plates separated by a spring, which are held together between the lips, making an electric circuit, when the lips open to pronounce the response word, the plates separate, breaking the circuit — Fr *clef labiale*, Ger *Lippenschlussel*

lip-reading = the art of comprehending the speech of another person by interpreting his facial movements, particularly those of the lips [Syn **speech-reading**] — Fr *lecture sur les levres*, Ger *Lesen von den Lippen*

lisping, see **paralalia, dyslalia**

Lissajou's figures = visible closed figures produced by the successive reflection of a narrow beam of light from two small mirrors, attached to two tuning forks which vibrate in perpendicular planes [The figure-pattern is essentially a plot of the movement of one fork against that of the other, when the periods of the forks are very nearly in simple ratio the figure-pattern is seen to undergo slow changes]

Listing's law = a principle of eye movement formulated by Listing, which states that if the eye moves from the primary position to any other, the torsional rotation of the eyeball in this new position is the same as it would be if the eye had turned about a fixed axis, lying at right angles to the initial and final directions of the line of regard

Listing's reduced (or schematic) eye, see **reduced eye**

listless = lacking desire or interest, with no tendency to action or activity [Distg fr **languid**, which implies weakness, whereas listless implies indifference] **listlessness**ⁿ — Fr *indolent*, Ger *teilnahmlos*

literature = (*tech*) the published reports of observations, experiments, systematic treatment, etc relating to some given problem or subject

Lloyd Morgan's canon, see **Morgan's canon**

loathing, see **disgust**

lobe = a rounded or projecting part of any organ (e g ear lobe) or one of the parts into which a globular body may be divided (e g brain lobe) — Ger *Lappen*

lobe/cerebral = a main division of the human cerebral cortex [There are 5 in each hemisphere frontal, parietal, temporal, occipital, and central (island of Reil), the boundaries are in some cases not definite]

lobe/olfactory, see **olfactory lobe**

local = limited to a small region in the body [Contr w **general or diffuse**]

local galvanic reaction = regional change in apparent skin resistance due to local stimulation or irritation of the skin

local sign, locality sign = a specific character assumed to be inherent in the sensory experience aroused by a single receptor, or by a single afferent neuron, and to differ for each receptor or for each afferent neuron [So called because it furnishes a cue to the position of the receptor-unit stimulated, and hence to the location of the stimulus The term is derived from Lotze (1852) **local signs** are required by most nativistic theories of space (e g Hering) and may be the material upon which genetic theories are grounded (e g Wundt) **locality sign** is prefd , but **local sign (or signature)** is generally used] — Fr *signes locaux*, Ger *Lokalzeichen*

locality memory = the ability of an organism to identify a given region or locality through memory of certain landmarks — Ger *Ortsgedachtnis*

locality survey = the exploring behavior by an animal of a given locality or region, particularly its home — Fr *examen des lieux*

localization = 1 the placing of a source of stimulation in a spatial or temporal manifold, esp w reference to or on the body of the observer, 2 the placing of a specific sensation or perception or memory, or their objective source, in space or time with relation to the totality of experience, 3 the identification of some specific structure of the body as concerned with some given function

localization of sound, auditory localization = judgment of the position of a source of sound in terms of direction or distance, or both [There are two kinds (1) **monaural** = using a single ear, aside from mere judgments of right and left this depends upon knowledge of the source or upon head movement, (2) **binaural** = using both ears, this depends upon the stimulus pattern, including R–L differences of time, energy, phase, and wave-form, as well as upon organic factors such as head movement, attentive set, etc Cf **phantom sound**]

localization theory = the theory that all receptive and motor, and many associative (e g *language*) functions have their neural locus in some specific region or area of the brain [Cf **motor area**]

localized amnesia, see **amnesia/localized**

localized stimulus = a stimulus applied to a very small region of the body

lock mechanism, see **catch muscle**

locomotion = the movement of an organism from place to place by means of its organic mechanism [Cf **locomotor function**] — Ger *Ortsveranderung*

locomotor = pert to the act or organs of locomotion

locomotor ataxia, see **tabes dorsalis**

locomotor function = the operation of any organic mechanism which enables an organism to travel from place to place [Classed as *swimming*, *flying*, and *walking*, the last including running, crawling, etc]

logarithm = (*math*) the exponent of that power of a fixed number (called the base) which equals a given number [E g since $10^2 = 100$, the logarithm of 100 to the base 10 = 2 The base of the system of **common** logarithms is 10, of the **natural** system 2 71828]

logarithmic curve = (*math*) a curve in which one rectangular coordinate of any given point (e g y) is the logarithm of the other (x) [The equation is $y = \log x$ Cf **logarithm**]

logarithmic decrement = for a partially damped sinusoidal wave, the natural logarithm of the ratio of the maximum amplitudes during two successive cycles [Cf **damping, damping constant**]

logic = the science which investigates the theory and principles of reasoning, i e the principles that enable an individual to make judgments or conclusions which are consistent with the data at hand **logical**ⁿ (usually restricted to conclusions reached by reasoning)

logic/affective = a term used to denote certain sequences of ideas which resemble logical processes but are controlled by the emotional factors that supply or suggest the connecting links [Related to the theory of **affective memory**, the logic of the **unconscious mind**, and **rationalizing**]

logic/formal = the body of formulated principles which describe the processes involved in thinking, with special reference to the validity of conclusions drawn from certain forms or types of premises regardless of the truth or falsity of these premises [Sometimes emphasis is upon the form of the propositions as distinct from the meaning]

logical = concerned with or following the principles of logic [Applied to arguments, reasoning, or the arrangement and classification of data, not to the facts or data themselves As applied to conclusions, logical may mean either those reached by sound reasoning (contr w **illogical**) or those reached by explicit reasoning (contr w **alogical or intuitive**) Cf **logic**]

logorrhea, logorrhoea = a mental disorder characterized by continual talking, usually incoherent [Syn **lalorrh(o)ea, polylogia**]

Lombroso/theory of = the theory that over-development of certain capacities or traits is accompanied by certain defects which indicate an instability of organization pointing toward degeneration [Formulated by C Lombroso (1888) as the degeneracy theory of genius]

long-circuit appeal = a method of salesmanship which involves presenting information about the product, or reasons why one should purchase it [Distg fr **short-circuit appeal** = to the emotions]

longevity = a span of individual life which is notably above the average span in the species [Applied loosely also to the average span of life in certain species which is above the average in man] — Ger *Langlebigkeit*

longitudinal = in a lengthwise direction [Vibrations are longitudinal when each vibrating particle oscillates to and fro parallel to the path of transmission, a longitudinal section is cut along the antero-posterior or cephalocaudal axis of the organism Contr w **transverse**] — Ger *Langs-, Langen-*

longing = an intense desire or craving — Fr *desir ardent*, Ger *Sehnsucht*

looking-glass self = a term denoting the impression or appraisal of himself which an individual receives from overt evidences of what other persons consider him to be [The impression is not necessarily a correct representation of the opinions of others Distg fr **social self, a** broader term, indicating the general behavior and attitudes of an individual when in a social group]

loquacity, loquaciousness = a tendency on the part of an individual to speak frequently and at great length [Distg fr **logorrhea**, a pathological and incoherent manifestation, contr w **taciturnity** = a tendency to vocal repression] **loquacious**[a] — Ger *Schwatzhaftigkeit*

loudness = the intensity character of sounds [Sounds of high intensity are described as strong, loud, intense, etc and those of low intensity as weak, faint, low, etc **loudness** depends upon stimulus energy, which is measured by the formula $I = P^2/pc$, where P denotes sound wave pressure, c the wave velocity, and p the density of the medium Distg fr **pitch** = the quality character] **loud**[a] — Fr *sonorite du son*, Ger *Lautheit, Starke*

loudness level = for a given sound, the absolute sensation level of a standard 1000-cycle pure tone adjusted so as to appear of the same loudness as the sound in question

love = a feeling or sentiment of attachment toward some person, often growing out of sexual attraction, relations, or situations, and exhibiting a great diversity of psychological and physiological manifestations [Often grouped with **anger** and **fear** as the three primitive emotions Syn **affection** Contr w **antipathy, enmity, hatred**] — Fr *amour*, Ger *Liebe*

low = 1 characterizing the pitch of tones whose stimuli are vibrations of relatively small frequency, 2 characterizing the intensity of sounds with relatively small stimulus-energy [To avoid confusion the syns (1) **deep**, and (2) **faint** are prefd Contr (1) w **high** and (2) w **loud**] — Fr (1) *grave*, (2) *faible*, Ger (1) *tief*, (2) *leise*

lower category = in the method of single stimuli, those reports which will surpass the other reports in frequency if the stimulus-magnitude is sufficiently decreased — Fr *catégorie inférieure*

lowest audible tone = the lower limit of the tonal continuum, corresponding to relatively low stimulus frequencies [This is estimated as about 20 cycles in the normal human ear] — Fr *limite auditive inférieure*

loyalty = an attitude of firm attachment or allegiance on the part of an individual to a single individual, a group, a symbol, or (figuratively) an ideal **loyal**[a]

lucidity = 1 (*path*) an interval of sanity in the midst of the incoherent manifestations of insanity, 2 (*psych res*) a power, supposed to transcend the limitations of sensory reception, by which distant or hidden objects are perceived [(2) attributed esp to magnetized or mesmerized subjects Syn (2) **clairvoyance.** Cf **cryptesthesia, metagnomy**] **lucid**[a] — Ger (1) *Klarheit*

ludicrous[n] = a situation tending or fitted to excite mirth [Syn **the comic**, prefd] **ludicrous**[a] — Fr *risible, comique*

lumbar = pert to or located on the loins, or (more exactly) the regions on either side of the median regions of the back between the infrascapular and coxal regions — Ger *Lenden-*

lumbar nerve = any one of the nerves issuing from the spinal cord in the interstices between the lumbar vertebrae [There are 5 pairs in man]

lumbar puncture = the withdrawal of cerebrospinal fluid by the introduction of a needle into the subarachnoid space through the opening between the lumbar vertebrae [A diagnostic and therapeutic procedure introduced by Quincke]

lumbar reflex, see **sacrospinal reflex**

lumen = the unit of luminous flux, it is equal to the flux emitted within a unit solid angle by a uniform point-source of light of 1 international candle [E g , a source of 1 candlepower placed at the center of a hollow sphere of 1 meter (or foot) radius sheds 1 lumen upon 1 square meter (or square foot) of the spherical surface]

luminosity = a word somewhat variably and indefinitely used as syn with **brightness or brilliance.** — Fr *luminosité, éclat*, Ger *Helligkeit*

luminous = 1 (*phys*) having the power of exciting the visual receptors, e g luminous radiant energy, 2 (*phys*) emitting light, as a source, 3 (*pop*) bright, having the appearance of emitting light

luminous flux = the rate of passage of radiant energy evaluated by reference to the conscious experience of brilliance produced by it, i e the quantity of light emitted by a given source or incident upon a specified surface [The unit of luminous flux is the **lumen** Distg fr **luminous intensity** and fr **radiant flux**]

luminous intensity = the luminous flux per unit solid angle emitted in a given direction by a source of light [**luminous intensity** is expressed in *candles* or as *candlepower* and is seldom if ever equal in all directions in any practical light-source Any element of a surface from which light is scattered by emission, transmission, or reflection behaves as a light-source with a luminous intensity proportional to its area Cf **illumination/law of**]

lunacy = (*pop*, *legal*) insanity [A technically obsolete term, based upon supposed magical association between mental disorders and influence of the moon] **lunatic**$^{n\,p}$ (Accent lu-) — Fr *folie*

lust = sexual desire [In loose usage it implies an excessive sex desire or indulgence Not to be confused w German *Lust* = pleasure] — Fr *convoitise*, Ger *Wollust*

luster, lustre = a visual phenomenon characteristically experienced when a somewhat irregular and more or less polished metal object is seen [It is believed to be due to the fact that the distorted images of other objects, reflected therein, are differently presented to the two eyes, but it is not wholly due to this since it can be effectively reproduced in a flat picture] **lustrous**^{a} — Fr *lustre, luisance*, Ger *Glanz*

lux = a unit of illumination, equal to the density of luminous flux upon a surface placed at right angles to the light-rays at a distance of 1 meter from a light-source of 1 candlepower [Cf **luminous flux**]

lycanthropy = 1 (*hist*) the supposed power to change one's self, or another person, into the form of a wolf or other wild beast, 2 (*med*) a symptom of mental disorder in which the patient has the delusion that he is a wolf or other wild animal **lycanthrope**^{n}

lying = making a statement or assertion which within the knowledge of the individual making it is contrary to fact and which is made with the intent of inducing others to believe the statement to be true [The term **pathological lying** is applied to statements contrary to fact, but imagined to be true, made by an insane individual, children's lies belong also to the field of imagination] **lie**^{v,n}, **lying**^{a}, **liar**^{np} — Fr *mentir, mensonge*^{n}, Ger *lügen*^{v}.

lymph = a fluid concerned in the drainage of the tissues and filling the **lymphatics**, a system of vessels opening into a proximal part of the venous system [The composition of lymph varies and depends on the nature and state of activity of the organ from which it arises Lymph taken proximally to a distal lymph gland contains **lymphocytes** **Chyle**, the milky fluid taken up by the lacteals or intestinal lymphatics after digestion, is lymph rich in emulsified fat] **lymphatic**^{a}

lymphatic temperament, see **phlegmatic**

lypemania = (*hist*) a depressive type of insanity [Syn **melancholia** (prefd) Esquirol's term, replacing melancholia, which for him was syn w **monomania**, whether depressive or not]

M

M = abbrev for **mean**

MA = abbrev for **mental age, meter angle**

Mach rotation frame = a large rectangular frame pivoted at the top and bottom so that it may be rotated on a vertical axis in order to investigate the perception of bodily movement, at one end of the frame the observer's chair is mounted in a smaller rectangular frame which is pivoted at the top and bottom and in which the chair may also be tilted [Devised by E Mach (1875)] — Fr *châssis de rotation de M*

machine = a contrivance for performing certain specific activities [Usually limited to a human construction, syn **mechanism**, which includes also equivalent structures found in nature] **machine-like**^{a} = acting in the manner of a machine

machine theory = (*psychol*) the theory that physiological processes are machine like, i e are determined by constant conditions (e g by neural topography) rather than by dynamic conditions (e g **electrical stresses**) [A term devised by the Gestalt school, contr w **dynamic theory**]

macrocephaly = a pathological condition characterized by an excessive enlargement of the head **macrocephalic**^{a}, **macrocephalous**^{a}

macrocosm = 1 the physical universe, 2 human society [Contr w **microcosm**, applied to man as an organic unit] **macrocosmic**^{a}

macropsia, see **megalopsia**

macroscopic = pert to the gross, to masses as wholes, or to aggregations of interrelated parts

macrosplanchnic = characterizing a physique in which the volume of the trunk is developed in excess of the limbs, showing a high morphological index [Contr w **microsplanchnic**, Cf **pyknic**]

macula, macula lutea = a small, indefinite pigmented area about 2 mm in diameter, situate centrally in the human retina, within which area is the *fovea centralis* [So called from its yellowish color Lat *luteus* = yellow Syn **yellow spot**] — Ger *gelber Fleck*

macula acustica = a structure found in both the utricle and the saccule which resembles the crista acustica but with shorter cells and with a denser mass of hairs

Maddox rod = (*ophthal*) a glass rod, mounted in a disk which can be inserted in a trial-frame, so that the patient looks through the rod at right angles to its axis, it has the effect of making a small light-spot appear as a streak, and is used in measuring the degree of **muscular imbalance** [Sometimes two or more small rods are used, mounted side by side, sometimes a piece of ribbed glass called **Maddox prism**] — Fr *baguette de M*

magic = 1 (*pop*) the art of jugglery or sleight-of-hand, 2 (*hist*) the art of producing phenomena with the assistance of secret forces, departed spirits, or supernatural beings, 3 a term applied, esp by anthropologists, to explanations of physical forces and phenomena by means of supernatural concepts [Under (1) fall the arts of natural **magic**, cf **conjure** (1) Syn **conjury, jugglery, legerdemain, prestidigitation** Under (2), the occult arts of **conjuration, augury, divination, incantation, enchantment, witchcraft, rhabdomancy, sorcery, necromancy**, etc, which make use of charms, talismans, amulets, relics, mystic ceremonies, etc, to invoke the supernatural forces] **magician**^{np}, **magic(al)**^{a}.

magnetic force, magnetism = a force of attraction, positive or negative, exerted by certain metallic substances upon others in close proximity **magnetic**^{a} — Fr *force magnétique* (*d'aimantation*), Ger *magnetische Kraft*

magnetism/animal, see **animal magnetism.**

magnetotropism, magnetotaxis = a simple orienting response, either positive or negative, to magnetic stimulation [Cf **tropism**] (Accent -tot-, -tax-) **magnetotropic**^{a}, **-tactic**^{a}

magnitude = that characteristic in respect to which one thing may be greater or less than

another (commensurable) thing — Fr *grandeur*, Ger *Grosse*

maintenance level = a stage of development at which growth has practically ceased, and the organism is maintained in a relatively constant state [Applied esp to modes of response and the learning process] — Fr *niveau de soutien (d'entretien)*

major = greater, larger [Mostly used as a tech designative, e g *major premise*, *scale* Contr w **minor** = lesser, smaller]

major premise (or premiss), see **premise**

major scale, see **scale** and Table VII — Ger *Durtonleiter*

major sixth, third, etc, (*mus*), see **interval** and Table VII

majuscule = a large letter or capital, as distg fr **minuscule**, or lower-case letter

make-believe = an attitude or mode of behavior on the part of an organism, which reproduces the characteristics of a totally different situation or condition [Applied esp to the imagined situations in children's play (not games), syn **feigning**, applied to animal behavior, e g death-feigning, etc] — Fr *feinte, faux semblant* — Ger *vormachen*[v]

maladjustment = the inability of an individual to adapt his behavior to the conditions of his environment, or the *fact* of such maladaptation — Fr *mesadaptation*

maladjustment/vocational = a condition resulting from an attempt to pursue a vocation for which the individual lacks the requisite capacities for success [Cf **selection/vocational, guidance/vocational**] — Fr *mesadaptation professionnelle*

malaise = 1 a slight indisposition, 2 the general feeling of unwellness which frequently ushers in serious disease, esp the acute infections

male = an organism which produces sperm cells [Biol symbol ♂ Contr w **female,** which produces ova or egg cells, cf **sex**] **male**[a] = intrinsically characteristic of males or of the male sex (e g male voice), **masculine**[a] = associated with the male sex (e g masculine attire) — Ger *Mannchen*

malevolence = a general disposition on the part of an individual to cause pain or distress to others, or to derive satisfaction from such pain or distress [Syn **malice,** which implies action on the part of the individual in question] — Fr *malveillance*, Ger *Boswilligkeit*

malformation = structural defect or **anomaly** in an organism — Ger *Missbildung*

malice, maliciousness = the disposition on the part of an individual to cause pain or distress to another [Syn **malevolence, a broader term,** including satisfaction derived from pain or distress in others, however caused **malice** usually refers to motivation of specific acts with intent to do harm, while **malevolence** implies a more general trait in the one who possesses it] **malicious**[a], Ger *Bosheit, Ubelwollen*

malign = to utter false statements concerning another individual, which tend to injure his reputation — Fr *diffamer*, Ger *verleumden*

malinger = to feign sickness or disability [**malingering** is distg fr **hypochondria** in which the illness, though imaginary, is believed in by the patient] **malingering**[n], **malingerer**[np] — Fr *simuler (une maladie)*, Ger *simulieren*

malleolar = pert to or located over the ankle-bone [From **malleolus,** one of two processes of the tibia] (Accent **-lee-**)

malleus = the first of the **auditory ossicles,** which joins the tympanic membrane and the second ossicle, the **incus** [Syn **hammer, hammer-bone**] — Fr *osselet du marteau*

malobservation = 1 observation which misses at the moment of the event the essential elements of the phenomenon, 2 recorded observation which fails as a faithful description of the elements in the event that were observed [It may consist in omission, transposition in temporal sequence, substitution of an absent for a present element, or interpolation of absent elements The cause of (1) is frequently misdirected attention, esp due to a preconceived hypothesis, of (2), the continued effect of the failure of memory, or confusion of description with inference]

Malthus' law = a genetic-statistical principle, formulated by T R Malthus, according to which the population of any given region, in respect to any given species, tends to increase in geometrical progression, while the means of subsistence increases at a less rapid rate **Malthusian**[a]

Malthusianism = the theory of population and of its limitation based on **Malthus' law**

mammalia, mammals = a class of vertebrates, characterized by embryonic development in the uterus and nourishment after birth from the secretions of the mammary gland **mammal** = an organism of the mammalian order, **mammalian**[a]. — Fr *mammifères*, Ger *Saugetiere*

mammary = 1 pert to or located near the mammary or milk-secreting glands, 2 applied to regions, in either male or female, surrounding the nipples (Accent **mam-**)

mammary gland = a gland with duct, which is laid down in the embryo of both sexes [In males it involutes after birth, in females it develops through puberty and reaches final development at end of pregnancy, when milk is secreted, and remains in this fully functional condition until the end of lactation, when partial involution again takes place, in old age almost complete involution may occur]

mammillary bodies = two small round bodies in the hypothalamus in the floor of the third ventricle between the cerebral peduncle and the tuber cinereum [Syn **corpora mammillaria, corpora albicantia**]

man, mankind = 1 a genus of animals belonging to the class of primates, and distinguished in behavior by language, civilization, and the use of tools, 2 (*pop*) a specimen of this species, 3 (*pop*) a male of this species [Syn homo, of which genus homo sapiens is the sole existing species] **human**[a] (cf **subhuman**) — Fr *les hommes, genre humain*, Ger *Menschheit, Menschengeschlecht*

man-to-man rating scale = a rating scale designed to facilitate ease and accuracy of estimating the degree to which a person possesses a given trait, by providing as standards of comparison a list of persons selected as possessing different degrees of the trait in question [The rater compares the person to be rated with these individuals, decides which of them he most resembles in the given trait, and assigns him the rating that has previously been assigned to that individual on the master scale] — Fr *echelle de correspondance d'individu a individu*

mana = a Polynesian religious concept of power, impersonal, not a spirit, but supernatural and supreme, which manifests itself in immaterial and living objects, including man, and can be used for good or evil

management = 1 the function, in any enterprise, of directing men and manipulating facilities to accomplish a predetermined result, in contrast to **administration,** which is the determination of purpose and policies, 2 the group of executives exercising this function, i e supervisors, foremen, superintendents, managers, vice-presidents, and president [(1) includes management of finance, production, personnel, and sales] — Fr *gestion,* Ger (1) *Handhabung,* (2) *Verwaltung*

mandibular reflex = elevation of the lower jaw caused by contraction of the masseter muscles, brought about by a blow on the chin or teeth [Mediated by the V sensory and V motor cranial nerves and pons Syn **chin r , jaw r , masseteric r**]

mandibuloconjunctival reflex = a drawing of the lower jaw toward the side of stimulation when the corneal conjunctiva is touched [Mediated by the trigeminal nerve and masticator nucleus and nerve]

mania = mental disorder characterized by excitement [Mainly historical Cf **manic-depressive psychosis**] **manic**[a], **maniacal**[a], **manic**[n,p], **maniac**[n,p] —Fr *excitation maniaque,* Ger *Wahnsinn*

mania/acute = (*hist*) a non-technical or merely descriptive term for suddenly developing excitement [Usually limited to the narrower concept of **mania**]

mania/homicidal = a mental derangement characterized by a constant desire to kill others [Cf **amuck**]

manic, see **mania**

manic-depressive psychosis = a type of mental disorder characterized by alternating periods of exaltation (with excessive activity) and depression with inhibition [Cf **cyclothymia**] — Fr *folie periodique, psychose maniaque-dépressive*

manifest = to disclose something to an observer by means of attitude or behavior **manifestation**[n], **manifested**[a], **manifest**[a] (= obvious)

manifest (dream) content, see **dream content**

manifold = an assemblage composed exclusively of elements which all possess one common feature or characteristic — Ger *Mannigfaltigkeit*

manikin test = a type of **performance test** devised by Pintner in which the task is to piece together the parts (arms, legs, head, and trunk) of a small wooden man

manipulation = a type of behavior in which the organism's activity is limited largely to local movements (i e of fingers, claws, or teeth) and the effect of which is to change the physical arrangement of the object or objects dealt with, e g unlocking a problem box, stacking blocks, arranging a bed tying a knot, etc [Distg fr activities involving more general musculature, as **locomotion,** it has usually indirect, and sometimes no observable, relation to the organism's biological responses of food-getting, sex, defense, etc]

manitou, manito = an Algonkin concept of an all-pervading power in the universe which emanates from indefinite sources, but any such source upon the manifestation of this power acquires the attributes pertaining to the power [Similar to **orenda, wakanda, tirawa,** etc Cf **mana**]

mankind = syn for **man** in treating the mental and social characters of the species, or in distinction from sub-human species [Syn **humanity**] — Fr *les hommes, l'humanité,* Ger *Menschheit*

mannerism = 1 a gesture or other expressive act peculiar to a given individual and performed so frequently that it becomes closely associated with him in the minds of others and may serve to identify him, 2 the semi-automatic gesturing in dementia praecox as more or less unintentional symbolic expressions of undercurrents of attitude and reaction — Ger *Manieriertheit*

manometer = an instrument for measuring pressure in a liquid or gas

manometric flame apparatus, manometric capsule = an apparatus for studying sound-waves, the sound-waves are conducted through a speaking-tube to one of the two compartments of a capsule, where they impinge upon a thin rubber membrane that separates this compartment from the other, which is a gas chamber connected with a small burning gas-jet, the pressure variations resulting from the sound are communicated through the rubber membrane to the gas stream, and cause observable variations in the height of the jet

manoptoscope = a hollow truncated cone for testing ocular dominance on the principle of unilateral sighting, the subject may test himself by holding the base of the cone against his face and viewing some object through the small end, he then closes his eyes alternately and the object disappears (i e shifts out of the restricted field of view) when the dominant eye is closed [The name implies a fixed or normal relation between eyedness and handedness]

mantissa = the decimal (or fractional) part of a logarithm [Contr w **characteristic** = the integer part]

manual = 1 pert to the hands, 2 pert to bodily skill or its lack in contr w verbal or intellectual skill

manual method = a method of instruction in the education of the deaf which makes use of the sign language and finger-spelling as the chief means of communication among the deaf and between the deaf and others

manuscript writing = a form of handwriting which omits joinings of the letters and uses instead the plain letters of the (Roman) alphabet [Distg fr **cursive writing,** and fr **print-script**] — Fr *écriture manuscrite*

Marey tambour = an instrument used for recording the time and degree of physiological motor processes, it consists essentially of a shallow chamber, one side of which is made of flexible rubber, a tube connects this chamber with the moving or pulsating part, so that the rubber surface is raised and lowered by the fluctuations of air in the tube, the short end of a lever rests on the rubber surface, and a pointer or marker on the long end records the movements on a moving record sheet

margin = the periphery of a two-dimensional figure **marginal**[a]

marginal consciousness, margin of consciousness, see **consciousness/marginal**

marginal contrast = (*vis*) an accentuated type of simultaneous contrast, which occurs in regions close to the boundary between two contrasting areas — Ger *Randkontrast*

Marie's disease, see **acromegaly** — Fr *maladie de M*

Mariotte's spot, see **blind spot**

mark = any distinguishing character or characteristic of any datum

marriage = an enduring relation, usually involving coitus, between two individuals of opposite sex, contracted according to any form prescribed or recognized by the community [The types of relation are classed as **monogamy** and **polygamy**, the latter including **polygyny** and **polyandry**] **marital**[a] — Ger *Ehe*

marsupialia, marsupials = an order of the class Mammalia, containing animals such as the opossum and kangaroo, which, instead of nourishing the young through a placenta in the uterus, are provided with an external pouch for their reception and nourishment — Ger *Beuteltiere*

Martius disk = an apparatus devised by G Martius for determining the gray-value of colors, a ring of the color to be investigated is placed on the disk between a central and a peripheral gray (each variable from black to white), the grays are varied until they are neither darkened nor lightened by the contrast-inducing action of the interposed ring, the gray of the variables gives the gray-value of the color

masculine, see **gender, male**

masculine protest = 1 (*indiv psychol*) the desire for masculine superiority, resulting from the identification of inferiority with femininity, 2 the struggle to overcome inferiority feelings in the interest of domination [A term proposed by Adler, embodying a central doctrine of his individual psychology] — Fr *revendication masculine*

masculinity = 1 the state or condition of an individual organism which has male characters, 2 the state of a female which has certain male characters [Syn **masculinism**]

masculinization = 1 the structural, functional, and behavioral changes which follow successful implantation of testicular tissue into a castrate female animal, involving regression of female characteristics together with the development of male qualities, 2 (*soc*) a change in personality from a predominance of feminine traits or attitudes to a predominance of masculine attitudes as a result of response to social or other environmental stimulation

masked epilepsy = a type of epilepsy in which the period of unconsciousness is brief and the epileptic attack or convulsion is replaced by more normally integrated (but nevertheless automatic and not remembered) activity [Syn **epilepsia larvata**]

masking = the partial or complete obscuring of a given tone by the simultaneous presentation of a tone of a different frequency [There are two types (1) **monaural**, when the second tone is presented to the same ear, (2) **binaural**, when the second tone is presented to the other ear, the latter is apparently an interference with clear perception rather than an actual reduction of peripheral sensitivity The term applies to other sense departments in similar meaning]

masochism = 1 a type of sexual perversion characterized by pleasure, often culminating in sexual orgasm, in being whipped or otherwise physically maltreated, 2 (*psychoan*) the destructive instinct turned inwards and erotically bound three forms are distinguished, erotogenic, feminine, moral [Syn **passive algolagnia** Contr w **sadism**, in which the individual takes pleasure in maltreating one of the opposite sex] (Pron **-oke-**) **masochistic**[a]

mass = 1 (*phys*) the quantity of matter in a material body, 2 (*soc*) a group of individuals, regarded apart from its social organization — Fr (1) *masse*, (2) *foule*, Ger *Masse, Menge*

mass action = the doctrine that learning, or intelligence, depends upon the joint action of large segments of the central nervous system and not upon the formation of specific bonds between small segments — Fr *action globale*

mass methods = the measurement of a considerable number of individuals by a particular test or experimental procedure, with the frequent result that more (but less precise) data are secured than when greater control is exercised over fewer subjects [**mass methods** may be useful when greater control is either not feasible or not justified Data secured by mass methods are generally amenable to elucidation by statistical methods] — Fr *m globales*

mass reflex = a reflex movement extending over the whole of an area innervated from a part of the spinal cord, especially when this has been injured [An abnormal reflex usually affecting the lower limbs Mediated by segments of the cord below level of injury] — Fr *réflexe de masse*

massed learning = the memorizing of relatively long verbal series, or the formation of a complicated motor habit, by repetition without interruption [Distg fr learning by **spaced repetition**, in which the repetitions are interrupted by periods of rest Cf **unspaced repetition**] — Fr *apprentissage (acquisition) masse*

masseteric reflex, see **mandibular reflex**

Masson disk = an apparatus devised by V Masson for determining the difference limen in vision, it consists of a white disk upon which are drawn, from center to circumference, a radial series of concentric black rectangles, when properly rotated, the disk shows a series of concentric gray circles which are increasingly lighter toward the periphery [The first ring (from within outward) which becomes indistinguishable from the white background measures the DL, by the ratio degrees of black/degrees of white in that ring Used also in experiments upon fluctuation of attention]

mastery = 1 the condition of being able to control (or of being in control of) the actions of others, 2 an attitude which implies one's consciousness of ability to control the actions of others, 3 extreme proficiency in the knowledge and handling of any language, science, or other material which the individual has learned [Contr (1, 2) w **subservience**] — Fr *maîtrise*, Ger (1) *Herrschaft*, (2) *Meisterschaft*

mastication = the act of crushing food with the teeth **masticate**[v] — Ger *Zerkauen*

mastoid = pert to or located in the mastoid process lying just behind the ear

masturbation = the inducing of tumescence and orgasm by manual or other artificial types of stimulation of the genitalia

matched groups = groups of individuals which are equated or matched, pair by pair, for experimental purposes, each member of the control group being equated or matched with a member of the test-group in as many respects as are considered significant for the problem (e g in age, school-performance, I Q, or any measurable trait) [Any differences which then appear between test- and control-groups are presumably due to the experimental situation and *not* to inequalities between the two groups]

mate^v = 1 to copulate, 2 to enter into durable relation with one of the same species and of opposite sex [Distg (1) fr **cross,** applied to plant fecundation] **mating**^{n}, **mate**^{np}.

material world, see **physical world**

materialism = 1 the theory that matter is the only ultimate reality, 2 the view which regards the body, more especially the brain, as the *substratum* of the psychic processes, which are ultimately material products

materialization = (*psych res*) the forming of objects or parts (or the whole) of the human body by supernormal means [Cf **teleplasm**]

maternal behavior = behavior (generally limited to the female sex) characterized by being directed toward care of the offspring or other helpless young [Distg fr **paternal behavior** by the sex of the parent and (in mammals) by the act of suckling] — Fr *comportement maternel*, Ger *mütterliches Verhalten*

mathematics = "the science concerned with the logical deduction of consequences from the general premises of all reasoning" (Encyclop Brit) [Ordinarily limited to the investigation of numerical and quantitative values and relations, or of other data (e g positional) which can be quantitatively treated] **mathematic(al)**^{a}.

mating^n, see **mate** — Fr *pariade*, Ger *Paarung*

mating behavior = the total group of responses involved in courtship and in sexual intercourse — Fr *pariade, comportement d'accouplement*

matter = 1 (*phys*) the totality (or any part) of the units of which the physical universe is composed, regarded either as mass, molecules, atoms, electrons, etc , 2 (*psychol*) the actual constituents of the universe which may serve as stimuli of any sort **material**^{a}

maturation = 1 (*biol*) attainment of the state of complete development, or the process whereby this state is attained, 2 the reduction of the number of chromosomes in the sex cells preparatory to fertilization [(1) applies to any organic growth, e g cells, organs, functions, organisms Cf **maturity.**] **maturing**^{a}. — Ger *Reifung*

maturation hypothesis = the theory that certain modes of behavior are inherited, but are not capable of performance upon presentation of the proper stimulus until the appropriate organs (or specific innate neural pathways) have matured [Sometimes applied to the development of instinctive dispositions without reference to any anatomical or physiological basis Contr w the theory that all forms of behavior are the result of learning rather than of inheritance]

maturation of instinct, see **instinct maturation.**

mature^v = to advance toward a complete state of development [Applied to animals and plants Syn ripen, applied to plants only] **maturing**^{a} — Fr *mûrir*, Ger *reifen*

maturity = the stage of complete development [Applied to cells, organs, functions, and organisms Cf **maturation**] **mature**^{a}

maxillary = pert or located in the jaws (Accent **max-**)

maxim = a practical guiding rule [In scientific investigation a well-tested **maxim,** or one of wide-spread application, is called **a canon**]

maximum = (*math*) the greatest value reached by a variable quantity which first increases and then decreases [Contr w **minimum** At a maximum the first derivative of a function is zero, and the second derivative negative] **maxima**^{pl}, **maximal** or **maximum**^{a}.

maximum (or **maximal**) **sensation** = that intensity of a given sensation which is not enhanced or augmented by any increase in the value of the stimulus [Contr w **minimal sensation**]

Maxwell's demons = minute beings assumed as a device for discussion of certain physical phenomena by Clerk Maxwell, and imagined to be endowed with various human characteristics adapted to their atomic order of existence [One demon is conceived as sorting the molecules of a gas according to their velocity and so making one section of the gas hot, another cold Another demon, endowed with unlimited visual acuity, is assumed to move away from the earth at a velocity exceeding the speed of light, and is thus able to view the panorama of history unfolding backwards to the earliest times]

maze = a device consisting of a system of pathways, with turns, branches, and blind alleys, usually one path only leading from the starting-point to some goal [Used to test human and animal learning ability or intelligence The progress of learning is rated in terms of decrease in time, number of errors, or both, in a series of trials In animal work the goal is usually a food-box **mazes** vary in form and intricacy, from a simple path with a single blind alley to the historical **Hampton Court maze** In human tests a pencil maze or high-relief finger maze is sometimes used Syn **labyrinth.**] — Fr *labyrinthe*, Ger *Irrgarten*

McCarthy's reflex, see **supraorbital reflex.**

mdn = abbrev for **median**

mean^n = an intermediate value in a given series [Most commonly applied to the **arithmetic mean** or average] — Fr *moyenne*

mean^v, see **meaning**

mean deviation, mean error, mean variation = syn for **average deviation**

mean gradations/method of = a psychophysical method, in which two appreciably different stimuli are presented, simultaneously or successively, the observer is instructed to bisect the sensory interval which separates them by adjusting a third, intermediate stimulus until it appears just midway between them, or, he is instructed to adjust a third stimulus which is greater (or less) than the two so that the two sense-distances appear equal [Syn **method of equal sense distances,** of **supra-liminal differences,** of **equal-appearing intervals,** of mean stimuli] — Fr *m de gradations moyennes*, Ger *M der mittleren Abstufungen*

meaning = 1 (*logic*) the phenomena, relations, etc which a given term, phrase, etc designates (denotes) or stands for (connotes), 2 (*assoc*) the context or imaginal elements associated

with the sensory data in a perceptual experience (or with a memory image or other revival) which serve to unify the experience and relate it to others, 3 (*introsp*) that aspect of experience which constitutes its character as object, value, or reference, as distg from the sensory aspect of experience which may be concomitant therewith, 4 (*beh*) as applied to a stimulus or situation, the definite responses, whether overt or implicit, which it may call forth, 5 the significance of an experience **mean**ᵛ, **meaningful**ᵃ — Fr (1) *sens*, (2) *signification*, (3) *sens*, *signification*, Ger (1) *Sinn*, (2) *Bedeutung*, *sinnvoll*ᵃ

means = the intermediate actions or activities of an organism involved in bringing about a final situation [In human activities, generally used where the final situation has been pictured or purposed beforehand, in animal behavior used to designate the intermediate activities in a life-preserving or other unitary behavior process] — Fr *moyens*

measureⁿ = 1 (*mus*) a short series of tones in a musical composition usually marked by a single ictus, 2 (*general*) a result obtained by measurement, 3 (*pop*) a standard for measurement [Cf **measurement**] — Fr *mesure*, Ger (1) *Takt*, (2, 3) *Mass*

measure of precision = a quantity, denoted by the letter **h**, which varies directly with the precision of the measurements and is defined by the relation $h = 1/\sigma\sqrt{2}$, where σ denotes the standard deviation [Syn **index of precision**]

measurement = the comparison of a quantitative datum of any sort with a fixed, enduring datum or standard of the same sort, in order to discover its numerical value [**measurement** may be either **direct** = by immediate comparison, or **indirect** = comparison by means of some intermediary Contr w **appraisal** = estimation of value by personal judgment [Cf **standard, scale** (1), **measure**ⁿ] **measure**ᵛ — Fr *mesure*, Ger *Messung*

measurement method = a term used to designate any specific procedure for finding the quantitative value, in some specified respect, of an object, event, or other datum [In psychophysics, the recognized methods are the **method of limits, of average error, of equivalents, of equal sense differences, of right and wrong cases** (or **constant stimuli**). In determining individual differences, the term *method* is used less formally and rigidly, characteristic **methods** are seen in (1) the use of single tests of specific functions (e g auditory memory for digits), (2) the use of groups of tests of either (*a*) non-related traits (e g the profile method), or (*b*) related traits (e g general intelligence tests) which are scored and interpreted either by the point-scale method or the age-scale method, and (3) the method of rating] — Ger *Massmethode*

measurement of intelligence = the comparison of individuals in respect to the quantitative value of their intelligence in terms of a standardized scale [Cf **standard, scale** (1)]

meatus/external auditory = the canal which leads from without through the temporal bone to the middle ear, and serves as the path for sound vibrations [Often called **auditory meatus**, or the **meatus**] (Accent -ay-) — Fr *conduit auditif externe*, Ger *ausserer Gehorgang*

meatus/internal auditory = a canal in the petrous portion of the temporal bone, which leads from the internal ear inward to the skull cavity, and contains, in man and other high forms, the acoustic and facial nerves and the internal auditory artery and vein (Accent **-ay-**) — Fr *conduit auditif interne*, Ger *innerer Gehorgang*

mechanical = 1 (*beh*) automatized, machine-like, 2 proceeding according to traditional principles of physics (and chemistry) [Syn (2) **mechanistic** (prefd)]

mechanical intelligence = general capacity on the part of an individual for dealing with mechanisms, as contr w capacity for dealing with ideas or with people [Syn **concrete intelligence** Distg fr **abstract intelligence** and **social intelligence**]

mechanical stimulation = the application of mechanical forces, such as traction or impact, to excite a receptor

mechanics = the branch of physics which investigates the activity of masses or other material units or groups

mechanics of ideas = a term devised by Herbart (1824) to denote the rise and subsidence of ideas in consciousness by a process in which force or energy (equivalent to attention) is transferred from one content of consciousness to another, the relative quantities having definite mathematical relations analogous to the general mechanics of physical force

mechanism = 1. a machine or machine-like system, fitted to perform certain activities in a fairly precise manner, 2 the mode in which the system operates, 3 (*psychoan*) the unconscious direction of a mental process in which feeling or emotion plays an important part; 4 syn for **mechanistic theory** [As applied to human behavior, the term refers to those activities which are machine-like in their constancy and regularity Cf **mental mechanism**] **mechanical**ᵃ (1), **mechanistic**ᵃ (2).

mechanism/neutralizing = (*psychoan*) a mental mechanism which enters into the structure of a dream and criticizes it, thus neutralizing the whole or a portion of its manifest content [Cf **mental mechanism**]

mechanistic theory = 1 the dynamic interpretation of the universe as a system of bodies moved by resident forces, 2 the consistent application of (1) to any field of investigation, esp. biology and psychology [Contr (2) w **vitalism** in biology and w **teleology** in psychology Cf **mechanism**]

mediacy = (*psychol*) the genesis of an idea indirectly (i e through a two-fold or manifold association) from a stimulus [The intermediate ideas are called **mediating ideas** or **associations** Cf **mediation**] **mediating**ᵃ.

mediad (or **mesad**)ᵃᵈᵛ = toward the medial plane or axis

medial (or **mesial**) **plane** = that plane in the body of a bilaterally symmetrical organism, which is at right angles to the dextrosinistral axis and divides the body into halves [Distg fr **sagittal plane** = any plane parallel to the medial, lying either to right or to left of the center Syn **median plane**]

median = the midpoint in a series of values, arranged in order of magnitude [If the number of such values is odd, the median is the value of the mid-measure If the number is even, the median may be taken as the arithmetic average of the two mid-measures Distg fr **mean**] — Ger *Zentralwert*

median deviation = the median value of the deviations of a set of measures (usually) from the median of the whole set [In a symmetrical distribution (but not in general) the median deviation = the **quartile deviation**] — Fr *écart médian*

median gray = a gray which is characterized as neither whitish nor blackish, or the color of a surface or stimulus which presents such an appearance [As a conscious experience it is presumably identical with the **cortical gray** of Muller]

median plane, see **medial plane**

mediate[a] = interposed between two terms or data [Applied to an idea or ideas intermediate between an initial idea and a later idea in the same series Cf **mediate association** Distg fr **mediating**, which implies a relating function for the interposed item] **mediate**[v], **mediation**[n] (these may also imply a relating function) — Fr *interposé*, *médiat*, Ger *mittelbar*

mediate (or **mediated**) **association** = the linking or association of one idea with another indirectly through one or more intervening ideas [Contr w **immediate association** = direct association or sequence between the two ideas]

mediation = (*psychol*) the interposition of one or more ideas or acts between an initial stimulus or idea and a given end result whose genesis is under investigation — Fr *médiation*, *entremise*, Ger *Vermittelung*

medical graphology = the utilization of handwriting in differential diagnosis of disease [The term may be broadened to include analysis not only of graphomotor abnormalities but also of simultaneously occurring disorders in written content]

medicine = 1 (*anthrop*) as applied to American Indians, the belief in systems of magical practices for curing the sick, influencing others for good or ill, and enhancing the fortunes of the practitioner
practices, e
and art of
supernatural]

medicine man, see **shaman.**

medicolegal = pert to the legal implications of medicine, e g the legal status of those suffering from nervous disorder, the legal obligations of physicians, etc

meditation = 1 sustained reflection, 2 (*relig*) a chain of reflections referring to religious subjects or to conduct connected with one's duty to God or to man [(2) is regarded by mystics as the form of prayer with which one may begin the attempt to realize union with God]

medium = 1 the contents of any portion of space through which a wave or moving body passes, 2 (*psych res*) an individual who is said to be directed or controlled by a disembodied spirit and to transmit that spirit's thoughts to living beings by means of speech, writing, gestures, etc **media**[pl] (1), **mediums**[pl] (2)

mediumistic writing, see **automatic writing**

medulla = 1 the marrow or inner portion of an organ, 2 used to characterize neural substance (e g medulla spinalis, spinal cord), 3 abbrev for **medulla oblongata** (Accent -dull-) **medullary**[a] (accent med-) — Fr *moelle*, Ger *Mark*

medulla oblongata = the portion of the brain which adjoins the spinal cord and extends cephalad as far as the cephalic border of the pons [It is virtually a continuation of the cord in which the cord structures are rearranged and new structures added Abbrev to **medulla** Syn **metencephalon.**] — Fr *bulbe*, *myelencephale*, Ger *verlangertes Mark*

medullary groove, see **neural groove**

medullary sheath, see **myelin sheath**

medullary substance = (*hist*) **myelin**

medullary tube, see **neural tube**

medullated = consisting of or covered with medullary substance (myelin) [E g **medullated nerve fiber** = covered with a myelin sheath Syn **myelinated** Cf **medullation**]

medullation = the covering of a nerve fiber with a sheath of medullary substance, or myelin [Syn **myelinization, myelination**] (Pron -dull-)

Medusa = a sexual and usually free-swimming stage in the life history of many Coelenterates [Syn **jelly-fish**]

megalomania = morbid overvaluation of oneself [Cf **grandeur/delusions of**] **megalomanic**[a, np] — Ger *Grossenwahn*

megalopsia = an increase in the apparent size of visual objects, ascribed to changes in the retinal end-organs or to spasm of accommodation [Syn **macropsia**]

megaphonia = a form of **dysphonia** characterized by a loud voice **macrophonic**[a].

megrim, see **migraine**

meibomian glands = small sebaceous glands situate between the cartilage and conjunctiva of the eyelids and opening on the edge of the lid [An acute inflammation of one of these glands is called a **stye or hordeolum**]

meiosis = the division of the germ cells during the process of maturation, in which the number of chromosomes is reduced by one half [Cf **mitosis**]

Meissner corpuscles = nerve terminations located in the papillary stratum of the corium [They occur most frequently in the soles and palms Usually considered to be receptors for pressure sensibility Syn **Meissner-Wagner corpuscles** A modification is called **Dogiel corpuscle**] — Ger *Meissnersche* or *Tastkorperchen*

melancholia = a type of mental disorder characterized by emotional depression and motor inhibition or agitation [Distg fr **melancholy,** a mood of sadness] **melancholic**[a], **melancholiac**[np], **melancholic**[np] (prefd)

melancholia/affective = a type of mental disorder corresponding to the depressive phase of manic-depressive insanity

melancholic = a type of temperament given to frequent and protracted spells of depression [Hist attributed to the predominance of black bile in the bodily humors Cf **temperament**]

melanism = (*biol*) abnormal, but not morbid, development of pigment in the skin, eyes, hair, etc [Contr w **albinism**] **melanic**[a]

melody = a rhythmical succession of tones expressing some musical idea or motive [Distg fr **harmony** = the simultaneous combination of tones into a chord The essential elements of music are **melody, harmony, rhythm**] — Ger *Melodie*

membership character = (*Gestalt*) the effect of dynamic participation whereby a part alters its individuality in becoming a constituent of the whole

membrane = a thin layer of substance, usually covering or lining the cavity of an organ or interposing between two organs or parts —Fr *membrane, cloison*

membrane of Bruch, see **Bruch's membrane.**

membrane theory of conduction = an explanation of the propagation of the nerve impulse in terms of the electrochemical properties of surface films or membranes [Cf **Nernst-Lillie theory of excitation and conduction**]

memorize = to stamp in or perfect a memory, especially of a long verbal passage, by repetition of the sequence **memorization**ⁿ, **mnemonic**ᵃ —Fr *apprendre par cœur, mémoriser*, Ger *auswendig lernen*

memory = 1 a generic term for those experiences, movements, or functions which are conditioned upon earlier experiences, movements, or functions of the organism, 2 an experience which is conditioned upon earlier experiences, but which does not refer specifically to such experiences, e g the recall of a name, date, etc , 3 a present experience which is conditioned upon some specific earlier experience and which refers definitely to that experience, i e the recollection of occurrences in their actual setting, 4 the process of responding to a partial repetition of an earlier stimulus-situation [In **rote memory** original material is retained or recited verbatim with no required attention to its meaning, in **logical memory** the material is always meaningful, and the meaning is to be retained or reported with no requirement that the original terms or symbols be recited The essential characteristic of (1) is **retention,** but it may also include **reproduction,** which characterizes (2) and (3) Syn (1) **mneme,** (2) **recall** (prefd), **remembrance,** (3) **recollection** (prefd), **reminiscence** = an extended series of **memories**] **memorial**ᵃ, **memory**ⁿ = pert to memory, **mnemonic**ᵃ = concerned w memorizing —Fr (1) *mémoire,* (2, 3) *souvenir,* Ger (1) *Gedächtnis,* (2, 3) *Erinnerung*

memory after-image, see **after-image/memory**

memory apparatus = a device, usually visual, for presenting successively, at a desired rate, a series of stimuli to be memorized, in typical form it consists of a motor-driven cylinder, disk, or strip bearing the nonsense syllables or other visual material, each item of which in turn is brought into temporary register with an exposure slot before which the memorizer sits

memory color = modification of the color of a perceived object as the result of previous experience [Syn **memory tinge**] — Ger *Gedächtnisfarbe*

memory curve = a graphic representation of the relative amounts of memorized material that can be recalled, or that are forgotten, after various intervals of time

memory drawing = graph reproduction of an object or scene from recall of one or more previous views of it when no model is present for copy —Fr *dessin mnémonique*

memory image = the revival of a former experience in the absence of the appropriate stimuli, the content of the revival being similar to the original experience, but not a copy of it

memory levels = in eidetic theory, the hierarchy of memory images, eidetic images, after-images —Fr *niveaux mnémoniques,* Ger *Gedächtnisstufen*

memory-odor, see **object-odor**

memory span = the number of items of a specified character that can be correctly reproduced or reported immediately after their first presentation —Fr *capacité d'appréhension, champ de mémoire immédiate*

memory span test = a test devised by J Jacobs (1887) to determine the maximal number of related or unrelated elements which a testee can reproduce exactly after (usually) a single presentation [Materials most commonly used for this purpose include nonsense syllables, numerals, unrelated words, and sentences Commonly distg fr **logical memory test** by insistence upon exact reproduction, but not usually distg fr **attention-span** (or **range of apprehension**) **test**]

memory system = any general artificial device used to assist recollection [Syn **mnemonic system**]

memory time = the time required to respond to a stimulus by recalling some appropriate memory [Cf **response time**]

mendacity = a tendency on the part of an individual to deceive others by false statements [Distg fr **fiction,** in which the false statements are not aimed to deceive Syn **lying**]

Mendel's law = a principle of hereditary transmission, discovered by Gregor Mendel, according to which the characters of the parents are transmitted to the offspring in units without change, some becoming perceptible in individuals of the first generation, others in those of later generations, with a definite ratio for each generation [Cf **Mendelian ratio**]

Mendelian ratio = in biparental offspring, the ratio between those which, according to Mendel's law, possess a given unit character or combination of unit characters (dominants) and those which do not (recessives) [For a single unit character the ratio in the first filial generation is 3 dominants to 1 recessive Cf **dominant character, recessive character**]

Mendelism = the theory of inheritance, based on Mendel's law, according to which the constitution of the offspring is determined by a certain number of independent factors (called **unit-characters**), contributed by the parents [Syn **Mendelian theory,** a narrower term Cf **hybrid**] **Mendelian**ᵃ**.**

meninges = the membranes which cover the brain and cord, consisting (in the brain) of the pia mater, arachnoid, and dura mater **meningeal**ᵃ (accent -inj-) — Ger *Hirnhaut*

meningitis = inflammation of the meninges, and any one of several disorders resulting therefrom

meniscus = a lens, one of whose refracting surfaces is convex and the other concave

menopause = the time of life at which menstruation ceases

menstrual function, menstruation = the periodic sanguineous discharge connected with the sexual function in the human female [So called from its monthly occurrence, related to **estrus,** or heat-period, in females of other mammals]

mental = 1 (*psychol*) pert to **mind** [Used with various meanings and interpretations (cf **mind**), sometimes syn for **conscious,** sometimes a generic adj embracing **conscious** and **unconscious** (or **subconscious**) and nearly equivalent to **responsive** Occasional syn **psychic**] — Ger *seelisch, geistig*

mental = 2 (*anat*) pert to or located on the chin [Lat **mentum**]

mental activity = 1 any performance which has a mental character, 2 rapidity and alertness of perception and thought

mental age = the degree of mental development of an individual, measured in terms of the chronological age of the average individual of corresponding mental ability [E g 10-year mental age = the degree of mental development attained by the average child of 10 years In practice **mental age** is used in a limited sense as syn with **intelligence age**]

mental-age-grade table = in mental testing, a table similar to an **age-grade table**, showing the number of children of each mental age found in each grade [Cf **age-grade table**]

mental alienation, see **alienation**

mental apparatus, see **topography/mental**

mental capacity, see **capacity**

mental chemistry = a phrase devised to express the view that the mind does not passively receive and compound data but supplies from itself an activity which is to some degree creative [Current in the time of J S Mill and indicative of dissatisfaction with a purely mechanical theory of association of ideas An important link between **associationism** and doctrines of synthetic activity, apperception, etc Sometimes incorrectly identified with compounding by mere mechanical addition of parts and thus opposed to **Gestalt** and **Gestalt theory** Cf **creative synthesis, mental synthesis**]

mental chronometry, see **chronometry/mental**

mental content = the experiences or constituents of experience of an individual at a given moment [Cf **content of consciousness**]

mental deafness, see **deafness/cortical**

mental defective, mental deficiency, see **deficiency/mental**

mental deterioration = the progressive loss of mental abilities which takes place in certain types of psychoses

mental development = the progressive unfolding or organization of mental life and behavior in the individual from embryonic life to maturity [Distg fr **mental evolution**, the progressive organization of these functions in the animal scale Contr w **mental decay** (or **degeneration**) = the loss of these functions in old age]

mental discipline = the doctrine that specific training (e g the study of mathematics) results in a general improvement of ability in all or in several functions [Nearly syn w **formal discipline** Cf **transfer of training**]

mental disease (or **disorder**) = any disturbance of the mental organization [The term has been largely replaced by **psychosis**, both minor and major] — Fr *maladie mentale*

mental element = a mental fact which is apparently simple, i e which remains unanalyzed at the present stage of scientific knowledge [Usually applied to an element of conscious content (e g a sensation), rather than an element of performance Sensations (1), images (1), and feelings (1) have been the conventional elements There have been attempts to find others (e g **imageless thoughts**) and also to reduce all to sensation (Cf **sensationism**)]

mental evolution = the progressive unfolding or organization of mental functions and of behavior in the animal scale [Distg fr **mental development** = the progressive organization of these functions in the individual]

mental examination = the systematic application of mental tests to an individual, in order to determine his mental status in relation to others in a given population

mental faculties = (*hist*) certain powers supposed to be inherent in the mind at all times, whether active or not, e g memory [As a doctrine this has been attacked by those who maintain the functional or dynamic view Cf **faculty psychol**]

mental function = 1 an operation performed on mental content (Stumpf), 2 any type of performance which has the characteristics of mentality, 3 mental activity or operation, as distg fr content or structure

mental healing = the healing of diseases and disorders by suggestion, supported by the faith of the patient in their cure [Syn **mind-cure, faith-cure, divine healing**, etc, cf **psychotherapy**] — Fr *guérison (cure) mentale*

mental hygiene = the investigation and systematic practice of measures for the preservation of mental health, i e for the maintenance of mental functions in normal condition

mental imagery/type of = the preponderance of a certain mode of sensory content (visual, auditory, etc) in the imagery experiences of a given individual [Used also to distg one kind of sensory material from another in imagery]

mental life = phenomena regarded as a continuing process in the individual — Fr *vie mentale*, Ger *Seelenleben*

mental maturity = the condition or attainment of complete general development of mental life and behavior in an individual

mental measurement = the evaluation of mental phenomena, or of the observable responses which represent them, in terms of some standard or scale [Applied esp to psychophysical research and to investigation of individual differences by mental tests]

mental mechanism = 1 the neural organization, or the functional organization which controls mental operations in an individual, 2 (*psychoan*) an indirect and typically unconscious manner of gratifying a repressed desire

mental organization = 1 the system of mental operations in an individual, 2 the systematized physiological mechanisms which, when operating as a result of stimulation, give rise to conscious experiences and responses

mental pathology, see **psychopathology**.

mental phenomena = 1 phenomena of consciousness, 2 these phenomena, together with subconscious or unconscious phenomena akin to those of consciousness, 3 any of the phenomena investigated by psychology

mental process (or **operation**) = 1 any responsive activity of the individual, esp such as involve goal-seeking and the use of previously learned responses, 2 any such activity involving consciousness

mental scale, see **scale/mental**

mental science = (*hist*) syn for **psychology**

mental set = the attitude or determination of an individual before receiving an expected stimulus or with reference to a problem or general situa-

tion [Syn **readiness** Cf **attitude, Aufgabe, Einstellung, Bereitschaft**] — Fr *ajustement mental, prédisposition m*, Ger *Einstellung, Bewusstseinslage*

mental synthesis = a type of compounding elementary mental phenomena, in which the product manifests certain new characteristics, apparently not found in the elementary constituents [Term introduced by J S Mill, by analogy with **chemical synthesis.** Cf **mental chemistry, creative synthesis**]

mental telepathy, see **telepathy**

mental test = 1 a standardized device used for measuring a mental trait, or for studying the mental operations or attitudes of an individual, 2 the process of applying such device

mental topography (or apparatus), see **topography/mental**

mental type, see **type/mental**

mentalism = the doctrine that psychology is concerned (wholly or in part) with the investigation of conscious phenomena [Contr w **behaviorism**] **mentalist**^{np}, **mentalistic**^{a}

mentality = the distinctive characteristic included in the notion of **mind,** or the specific manifestation of mind in any organism [Used also comparatively, to denote differences in degree of mental organization, either among individuals or between species Cf **mind.**]

meridian = (*ophthal*) 1 in the surface representing the visual field of a single stationary eye, any *line* which passes through the fixation-point, horizontally, vertically, or at any oblique angle, 2 (more generally) a *plane* passing through the fixation-point and the nodal point of the eye

merit^{n} = an ethical concept denoting a positive evaluation or a belief in the worth of some act of an individual or of his general conduct [Applied loosely in science to the positive evaluation of a hypothesis or theory]

Merkel corpuscle = a type of cell located in the submucous tissue of the tongue and mouth [Believed by some writers to be receptors for pressure sensations]

Merkel's law = a theoretical principle formulated by J Merkel, according to which equal differences between sensations correspond to equal differences between stimuli [**Merkel's law** and **Weber's law** do not conflict, since Weber's law is based upon liminal differences, Merkel's upon larger (supraliminal) differences]

mescal = a preparation of the cactus, Anhalonium Lewinii, possessing peculiar narcotic properties It produces depression of the respiratory center, nausea, and a stimulation of the central nervous system, characterized by hallucinations of the higher senses, particularly that of sight

mesencephalon = that part of the brain which develops from the middle cerebral vesicle, it is formed by the corpora quadrigemina, the tegmental region, and the crura cerebri, and is pierced by the aqueduct of Sylvius [Syn **midbrain**]

mesenchyme = a mass of tissue in the embryo which consists of isolated, non-layered cells, proliferated usually from the mesoderm [It gives rise to the connective tissues, skeleton, blood, and most of the muscular tissue in vertebrate animals]

mesentery = a fold of the peritoneum which envelops the abdominal organs and suspends them from the abdominal walls (Accent **mes-**) **mesenteric**^{a} (accent **-ter-**)

mesmerism = (*hist*) hypnotism [So-called from Franz Anton Mesmer, who first brought hypnosis to the attention of the scientific world (1775) Syn **animal magnetism**] **mesmeric**^{a}, **mesmerize**^{v}.

mesoblast = the middle germ layer of the embryo [Syn **mesoderm**] — Fr *mésoblaste, feuillet moyen*

mesoderm = the middle germ-layer, lying between the **ectoderm** and **entoderm.** [Syn **mesoblast**] — Fr *mesoderme, feuillet moyen*

mesial plane, see **medial plane**

mesogastric = pert to or located in the central region of the abdomen, below the epigastric region and above the pubic region

mesognathous = designating a shape of skull which neither recedes greatly from the frontal plane of the jaw (prognathous) nor approaches to that plane (orthognathous) (Accent **-og-**)

mesokurtic, see **kurtosis**

metabolic gradients = gradations in the intensity of metabolic activity in organisms or their parts [The rate of metabolic change often decreases in passing back from the head region in animals, and from the tip of the stem downward in plants]

metabolism = 1 the energy exchanges in living organisms, 2 the sum of physical and chemical changes which take place in the body of a living organism [Includes the constructive (anabolic) and destructive (catabolic) processes Cf **basal metabolism, catabolism, anabolism**] (Accent **-tab-**) **metabolic**^{a} — Ger *Stoffwechsel*

metacarpal = pert to the bones of the hand above the fingers — Ger *Mittelhandknochen*

metagenesis = the alternation of two distinct forms in successive generations of certain species [Syn **alternation of generations**]

metagnomy = (*psych res*) the apparent acquisition of knowledge about things or thoughts which are normally inaccessible to the mind, the source of such knowledge being often ascribed to discarnate persons [Distg fr **prosopopesis,** in which the discarnate personality is supposed to be merely personated by means of telepathy from the living Syn **clairvoyance, clairaudience,** but esp **psychometrizing**] **metagnomous**^{a}, **metagnome**^{np}, or **metagnomist**^{np}

metakinesis = 1 a term suggested by Lloyd Morgan to designate the prototype of consciousness present in the lowest animal species, 2 (*cytol*) the middle stage of mitosis, during which the chromosomes are grouped in the equatorial plate

metallic = an assumed quality of gustatory sensation due to the contact of certain metals (especially brass) with the tongue [Not regarded by recent authorities as an elementary taste quality]

metallophonia = a form of **dysphonia** characterized by a metallic voice

metamere = a segment of the animal body [Syn **somite** Cf **neuromere**]

metamorphopsia = a mislocation of certain portions of the field of vision, due to a pathological displacement of the corresponding portions of the retina, and resulting in a distorted appearance of objects seen [Rare term]

metamorphosis = a radical and more or less abrupt change of form which occurs during the

lifetime of certain animals and affects their general appearance, structure, behavior, and physiological processes [E g the changes of an insect larva into the chrysalis and imago]

metaphysics = 1 the branch of philosophy which treats of the ultimate nature of things, 2 philosophy in general [Distg (1) fr **epistemology** or theory of knowledge, which treats of the nature and validity of knowledge] **metaphysical**[a] (*pop* syn for **abstruse**)

metaplasm, see **teleplasm**

metapsychics = the study of physical or psychical phenomena apparently dependent upon (*a*) an undetermined intelligence, (*b*) unknown but intelligent forces, (*c*) unknown powers latent in the human mind, or (*d*) subconscious or unconscious processes (Richet) [**objective metapsychics** deals with mechanical, physical, or chemical effects, such as **raps, levitation, apparitions, subjective metapsychics** deals with psychical or subjective phenomena, such as **telepathy, clairvoyance, presentiments,** which seem to manifest a mysterious faculty of **lucidity** or **cryptesthesia** or **metagnomy** Syn , **cryptopsychism, parapsychics, parapsychology, psychic(al) research, psychic science**] **metapsychic(al)**[a], **metapsychism** or **metapsychosis**[n] = the process, **metapsychist**[n p]

metapsychology = a point of view in psychoanalysis which regards every mental process under three aspects, viz the dynamic, topographical, and economic

metapsychosis, see **metapsychics**

metatarsal = pert to the part of the foot between the heel and the toes

metazoa = the general division which includes all many-celled animals [A plural term, singular form **metazoon**, or more commonly **metazoan**[n]] **metazoan**[a]

metempirical = characterizing that which is not open to experimental or empirical verification, i e "whatever lies beyond the limits of possible experience" (Lewes) [Applied to concepts, etc which are conceived as beyond, and yet related to, the knowledge gained by experience, syn **transcendental**]

metempsychosis = the theory of the transmigration of the soul after death into the body of some animal or of another person (Accent **-emp-** and **-ko-**)

metencephalon = 1 that part from which the medulla oblongata is developed (present usage), 2 that part of the embryonic brain from which the pons and cerebellum are developed (Huxley)

methectic = (*psych res*) characterizing communications between one stratum of a man's personality and another, as when he writes messages whose origin is the subconscious activity of his own mind [Exhibited in **automatic writing** and the use of the **ouija board** and other **autoscopes**]

method = 1 a systematic and general manner of working, especially in the endeavor to reach scientific truths, 2 a special manner of working in science [Syn (2) **procedure** (prefd), restricting **method** to (1)]

methodeutic, see **methodology**

methodical selection, see **artificial selection**

methodology = the systematic investigation and formulation of the methods to be used in scientific research [It may be regarded either as a branch of logic or as a technological counterpart of logic Syn **methodeutic**]

metric[a] = 1 relating to measurement, 2 pert to the standard of measurement based upon the meter

metric[n] = a system or standard of measurement in terms of which the conclusions stated hold

metric formula = the formulation, by Fechner, of **Weber's law**, in the equation $S = k \log R$, where S is sensation, R is stimulus, and k is constant for a given sense-modality — Ger *Maasformel*

metric methods, see **psychophysical methods.**

metronome = an instrument for marking off short periods of time by sharp sounds, it consists of an inverted pendulum, which makes an audible stroke during each swing, and whose speed can be regulated within certain limits by raising or lowering a bob [It is frequently equipped with electric contacts for graphic recording, and sometimes with a bell, which may be set to ring with every second, third, or other stroke]

Meyer's experiment, Meyer's contrast pattern = a demonstration of visual contrast devised by H Meyer, which consists in laying a small gray paper on a larger colored field and overlaying the whole with tissue paper, the complementary color is observed upon the gray area by contrast

microcephaly = a pathological condition of human growth, characterized by exceptional smallness of the head and brain **microcephalic**[a], **microcephalous**[a]

microcosm = 1 (*hist*) a miniature universe, esp a human being, regarded as an epitome or mirror of the universe, 2 the world of minute organisms revealed by the microscope [Contr (1) w **macrocosm** = the **universe**]

micromillimeter, see **micron**

micron[n] = a unit of length largely used in microscopic measurements and in measurements of the wave-lengths of radiation, equal to one millionth of a meter, or one thousandth of a millimeter [A **millimicron** ($m\mu$) or **micromillimeter** is one thousandth of a **micron.**]

micro-organism = a minute organism, either plant or animal [A loose term, applied to protozoa, protophyta, etc , invisible (or nearly invisible) to the human eye]

microphone = an instrument which transforms acoustic into electric power, with (ideally) no alteration in wave form [Two types are in common use (*a*) **carbon-button** type the air-vibrations, impinging on a thin metal diaphragm which bears on a cup filled with carbon granules, vary the resistance of the granules, and hence produce variations in an electric current that is passed through the granules, (*b*) **condenser** type the diaphragm is placed very close to a back plate, and a high voltage is impressed on the condenser formed by the diaphragm and back plate, movements of the diaphragm produce alterations in the electrical system by varying the capacity of this condenser Syn **telephone transmitter**]

microphonia = a form of **dysphonia** characterized by marked weakness of the voice

micropsia = a decrease in the apparent size of objects seen, supposed to result from changes in the retinal end-organs

microscope = an instrument with magnifying lenses, used for the observation of very small

objects or details which are invisible or indistinct to the unaided human eye

microscopic = that which is so small or fine as to be invisible to the naked eye

microsplanchnic = characterizing a physique with low morphological index, so that the individual has a small trunk with long limbs (Naccarati) [Contr w **macrosplanchnic** Cf **asthenic** and **leptosome**]

micturition = the discharge of urine from the bladder [Syn **urination**] **micturate**[v]

midbrain = that part of the embryonic brain which lies beyond or cephalad to the cerebellum and behind the cerebrum, embracing the parts from which the crura, quadrigemina, and other middle ganglia develop [Syn **mesencephalon**] — Fr *cerveau moyen, mesencephale*, Ger *Mittelhirn*

middle ear = the hollow section of the auditory receptor which lies between the external meatus and the labyrinth [It is bounded peripherally by the ear-drum membrane or **membrana tympani**, and centrally by the walls of the **labyrinth** and the two membranous windows, it contains the three auditory bones (*hammer, anvil*, and *stirrup*), and is projected as the Eustachian tube into the mouth cavity] — Fr *oreille moyenne*, Ger *Paukenhohle, Mittelohr*

midparent = the mean or average measure of the two parents in respect to any specific character [Applied to man and subhuman species In measuring human stature, a correction is made to allow for the different average height of males and females] — Fr *parent moyen*

midperiod = the central period or portion of an experience, following the preparatory stage [Cf **foreperiod**] — Fr *periode moyenne*

midpoint = (*statist*) the point half-way between the limits of a given interval or range

midscore = the middle score in a series arranged in numerical order — Fr *point central, p median, note centrale, n mediane*

migraine, megrim = a pathological headache, often on only one side, characterized by nausea, 2 dullness, depression of spirits

migration = 1 the seasonal displacement of certain animal species, stimulated by variations in climate or food supply, or by the mating impulse, 2 the permanent removal of a species to another habitat, due to scarcity of food, presence of enemies, etc in their former environment (1) **migratory**[a], (1, 2) **migrational**[a]

milieu = 1 the physical and social setting in which an organism is placed, including its surroundings and self, 2 the immediate social environment of an individual [French **setting** and **social setting** are available English equivalents]

millilambert, see **lambert**

millimicron, see **micron**

Mill's canons = certain principles which aim to guide the use of induction, first explicitly formulated by J S Mill [They consist of the principles of (1) **agreement**, (2) **difference**, (3) **joint agreement** and **difference**, (4) **residues**, and (5) **concomitant variation**]

mimesis = (*esth*) the theory that art is some sort of imitation

mimetic response = a responsive act which is stimulated by some act of another creature, and which tends to resemble this act in character and form [Syn **mimicry**, cf **mimetism**]

mimetism = 1 the assumption by one creature of the color, shape, attitude, movements, etc of another, serving as a protection against enemies or for concealment from prey, 2 the reproduction by one creature of some act by another, which serves as stimulus [The term is preferably limited to (1), reproduction of a given stimulus being termed **mimicry** or **imitation**] **mimetic**[a]

mimicry, see **mimetism** (2)

mind = 1 the sum total of those activities of an organism by means of which it responds as an integrated, dynamic system to external forces, (usually) in some *relation to its own past and future*, 2 the organized totality of conscious experience, 3 (*pop*) syn for **intellect** [The term is used or interpreted by different writers with various shades of meaning **mind** (1) is limited by some to responsive activity (behavior), for many others it includes conscious phenomena also, while for others it includes both conscious and unconscious or subconscious phenomena (e g in psychoanalysis, where mental processes are regarded as essentially unconscious, conscious processes being merely isolated parts of the entire psychic entity) **mind** (2) may be limited to conscious experiences and their assumed elements (introspective view), or it may include the intentional or telic implications of these experiences and their resulting motor activities] **mental**[a], **psychic**[a] (sometimes used w **mind** 2) — Fr *esprit*, Ger *Psyche, Geist, Seele*

mind-blindness = inability to grasp the meaning of objects seen, attributed to separation of visual centers from the rest of the cortex [Syn **cortical blindness**] — Fr *cecite mentale, c corticale*, Ger *Seelenblindheit*

mind-body problem = the problem of harmonizing or accounting for the relations of mind and body taken as entities [Aristotle attempted to solve the problem as presented in Platonic dualism by a concrete functional view of organic life In modern times the problem has presented difficulty because of the sharp dualism of the Cartesian system Early solutions were the theories of **occasionalism** and **preestablished harmony** More recent attempts are the **double-aspect theory, parallelism, epiphenomenalism, phenomenalism, immaterialism, interactionism**] — Fr *probleme de l'esprit et du corps*

mind-cure, see **mental healing**

mind-dust theory = the view that atoms or particles of mind or mental substance exist extensively in the universe and are combined to form actual minds [Syn **composition theory** Cf **atomism/psychological**] — Fr *t de l'atomisme mental*

mind-reading = the interpretation by an individual or an animal of the ideas or unspoken commands of another individual from voluntary or involuntary signals given by the latter [It is believed to depend upon the reception of slight motor indications through the special senses, when giver and receiver are in physical contact, it is sometimes called **muscle-reading**, when both the giving and the interpreting of the signals are unconscious, it is mistaken for **telepathy**, syn **thought-reading**] — Fr *lecture de la pensee*, Ger *Gedankenlesen*

mind-set, see **mental set**

mind-stuff theory = the view which interprets mind as formed by the combination of atoms or particles, which are held to be the same as those elements that appear to the observer as matter [Syn **monadism**, distg fr **composition theory**, which does not identify the mental and material elements] — Fr *t de la matière mentale*

mind-twist hypothesis = a functional (as distg fr a structural) interpretation of dementia praecox, schizophrenia, or parergastic reactions

mind wandering = a loose term applied to states such as **reverie, day dreaming, and distraction** — Fr *rêverie*, Ger *Phantasieren*

miners' nystagmus, see **nystagmus**

minimal, see **minimum**

minimal change (or changes)/method of = a method of psychophysical investigation, in which the variable stimulus is varied, by a series of changes so minute as to be individually imperceptible to the observer, from a value definitely greater (or smaller) than the standard to a value definitely smaller (or greater) — Fr *m des moindres changements*, Ger *M der Minimaländerungen*

minimal (or minimum) essentials = (*educ*) those portions of the field covered by school topics which are considered absolutely essential, i e standards or requirements which are basic, and below which instruction or practice should not fall — Fr *minimum indispensable*

minimum = (*math*) the lowest value reached by a variable quantity which first decreases and then increases [At a minimum the first derivative of the function is zero, and the second derivative positive] **minima**^{pl}, **minimal**^{a} or **minimum**^{a}.

minimum (or minimal) sensation = a sensation which cannot be decreased in intensity without vanishing, i e the sensation evoked by a just perceptible stimulus [Syn **liminal sensation, threshold of sensation**]

minor = lesser, smaller [Lat Mostly used as a technical designation, e g minor premise, scale Contr w **major**, = greater]

minor premise, see **premise**

minor scale, see **scale** and Table VII — Ger *Molltonleiter*

minor sixth, third, etc (*mus*), see **interval**, and Table VII

minuscule = a small or lower-case letter, as distg fr **majuscule**, or capital

minuthesis/visual = the process of reduction in any specific visual sensibility under the influence of the stimulus which arouses the visual process

miosis, see **myosis**

miotic^{n}, **myotic**^{n} = any drug or agent which causes contraction of the sphincter iridis muscle and diminution in size of the pupil **miotic**^{a}, **myotic**^{a} = causing iris contraction [Contr w **mydriatic**]

miracle = (*hist*) an event or effect contrary to the established constitution and sequence of events, believed to be performed by deities, or by men utilizing divine or magical powers —Ger *Wunder*

mirror-drawing = a line drawing made by viewing a given design in a mirror and attempting to trace or reproduce it while the hand, pencil, and paper bearing the design are concealed from direct view — Fr *dessin en miroir*, Ger *Spiegelzeichnung*

mirror experiment = an experiment by Lambert (1760), in which two bits of color are observed, one through a pane of glass, the other by oblique reflection from the same glass, one appearing behind the other, or the two mixing, according to their relative distance from the pane

mirror galvanometer, see **galvanometer.**

mirror-writing = 1 written or printed words in which the right-left relations are reversed, so that the writing appears in normal form when reflected in a mirror held at either side, 2 the act of writing in the reverse lateral direction, so that the script appears normal when reflected in a mirror held at the side [Observed in children and in certain mental disorders, produced in normal adults most often by bimanual symmetrical writing movements Syn (1) **mirror-script**] — Fr *écriture en miroir*, Ger *Spiegelschrift*

miscegenation = the marriage or union of individuals belonging to different races (e g Caucasian and negro)

mischievousness = a disposition on the part of children to disarrange or destroy, with no anti-social aim [Extended pop to include various actions which cause discomfort to the adult] **mischievous**^{a}, **mischief**^{n} = any specific instance

misdemeanor = a minor infraction of legal enactments — Fr *délit, contravention*, Ger *Vergehen*

misogamy = a morbid dread of marriage

misogynist = an individual who hates women

mistuned forks = tuning forks which are intentionally tuned slightly above or below the pitch of a standard, for use in investigating pitch discrimination or differences of sensitivity between the ears — Fr *diapasons desaccordes*

misunderstand = to interpret wrongly the meaning of spoken or written language or of any other sign, symbol, or act **misunderstanding**^{a} — Fr *malentendu*^{n}, *méprise*, Ger *missverstehen*

mitosis = cell division which involves splitting of the chromosomes and various other preliminary transformations in the nucleus and the cytoplasm [Syn **karyokinesis, indirect cell division.**] — Fr *mitose*

mixed mode = a term used by Locke to characterize the combination of simple ideas of several kinds into one complex idea [The **mixed mode** is a complex idea, such as a lie, which has existence for the mind but is not itself a substance Locke's description makes it a combination of simple ideas]

mixoscopia = excitement incident to the witnessing of a sexual act

mixture = a mass of components in which every member retains its own individual characteristics [Contr w **compound**, in which fusion occurs Applied in psychology to certain combinations of sensations] — Fr *mélange*, Ger *Mischung*

mneme = the basis or basic principle of memory and habit [Used by R Semon to denote the general pervasiveness in nature of the stamping-in process or recording of the past] **mnemic**^{a}.

mnemic, see **mneme**, and **memory**

mnemic theory = the theory which interprets heredity as a form of memory

mnemonic = pert to memorizing

mnemonics = the art of improving one's memory of certain facts or of facilitating recall by means of special devices, such as catch-words, formulas, etc

mob = an incidental aggregation of individuals acting under high emotional conditions, often in an attempt to control the actions of those who oppose them, or to accomplish some illegal act [Distg fr **crowd,** in which a common emotional element is lacking or is less violent] — Ger *Pobelhaufen*

mobile type = a type of temperament characterized by a flexibility in shifting from one type of task to another, and by a tendency to proceed rapidly in a task with less stress upon accuracy (Downey)

mobility = the capacity for movement or contraction [Generally applied to muscles or systems of muscles Distg fr **motility** = capacity to move about, as in locomotion]

mobility/labor, see **stability/occupational**

modal sensitivity, MS = 1 (*hist*) the range of stimuli to which the organism is sensitive in respect to some sensory **modality,** e g 405 to 700 mμ in the case of visual line and light, 2 the number of sensations or **just noticeable differences** within this range, e g 128 hues

modality = a separate sense or department of sense [Helmholtz (1878) defined modality as a qualitative sensory continuum discrete from other sensory continua Thus visual sensations form a single continuum or modality but warmth, cold, pressure, and pain, which are supposed to be discrete and without intermediate qualities, would form four distinct modalities Cf **mode/sensory**]

mode = 1 (*psychol*) any general class of characteristics or attributes of the data under investigation, 2 (*statist*) the most common value in a given series, 3 (*soc*) the manner of dress, living, or social intercourse prevalent in a given community [Cf (1) **mode/sensory** A statistical curve is termed **multimodal** if there are several high points with troughs between, and **unimodal** if there is but a single maximum, if it is V-shaped, with a single minimum, it is termed antimodal Syn (3) **fashion**] **modal**[a]

mode = 4 (*mus*) the arrangement of tones and intervals within a given scale, which results when a certain note is taken as the tonic, e g the major and minor modes [For discussion of the basic modes in Greek, ecclesiastical, and modern music, see Grove's Dictionary of Music and Musicians Cf **scale.**]

mode of appearance = (*vis*) a class of properties of colors or other sensory phenomena, in addition to their primary attributes, which tend to have a spatial or temporal character [The most common modes of appearance of color are bulkiness, surface nature, film nature, luster, transparency and glow] — Ger *Erscheinungsweise*

mode/sensory = a subdivision of the total group of sensory experiences, including those experiences which resemble one another more closely than they resemble experiences of other subdivisions [The criteria for such resemblance are obscure, in general the term **sensory mode** is used as equivalent to a **sense,** e g vision, audition, etc Cf **modality**] **modal**[a], **modality**[n].

model = an object or datum which is copied or may be copied [Applied to static data, distg fr a movement or action to be imitated Cf **pattern** Syn **copy** (ambiguous)] **model**[a] = suitable for copying

modesty = 1 an attitude or mild emotion characterized by self-effacement, or self-depreciation, 2 an attitude of conformity with social conventions as to concealment of the body or of bodily functions [Contr (1, 2) w **immodesty.** Cf **shame**] **modest**[a] — Ger *Scham, Bescheidenheit*

modifiable = subject to change **modifiability**[n]

modification = 1 (*biol*) a change in an organism due to environmental influences, 2 any alteration in the form of an action or scheme of procedure [Contr (1) w **variation,** a change due to hereditary influences or occurring in the fertilized germ and heritable (2) used technically in behavior and semitechnically in scientific procedure] **modify**[v]

modiolus, see **cochlea** [Accent -dye-]

modulation = (*mus*) the progression of a melody from one key to related keys

modulus = a constant multiplier or parameter by means of which one set of numbers may be transformed into or related to another set [E g the constant used for transforming logarithms to the base *e* into logs to the base 10, the constant (modulus of elasticity) which relates the tension applied to a wire and the resultant stretching A **modulus** serves to convert a proportionality or equivalence (designated by ≎) into an equality (designated by =)

mogiarthria = defective speech in which the vocal muscles fail to coordinate properly due to lesions of the nervous system [Syn **ataxic speech** A form of **dysarthria**]

moiety, see **dual division**

molar = 1 pert to mass or masses, 2 of, pert to, or containing a gram molecular weight or **mole** [Contr (1) w **molecular, atomic,** etc E g molar force]

molecular layer, see **granular layer.**

molecule = a chemically unitary combination of atoms [Cf **mass, molar**] **molecular**[a]

Mollusca, mollusks = a phylum of invertebrates characterized by unsegmented structure and as a rule by a hard shell, e g oyster, snail

moment = 1 the measure of a force by its effect in producing rotary movement in a body, 2 an instant (or small interval) of time, in which some event occurs, 3 syn for **importance** — Ger (2) *Augenblick*

moment = 4 (*statist*) the sum of the deviations from the mean (raised to some given power) in a distribution, divided by the size of the sample Simple moments, i e $\Sigma x^m/N$ are those wherein N is the size of the sample, and *m* is the power to which deviations x are raised [The order of the moment, 1st, 2d, etc is indicated by the value of m, thus $\Sigma x/N$ = 1st moment, $\Sigma x^2/N$ = 2d moment, etc When deviations are taken from the mean the common designation of the moments is that given in Table XV, C (Statistics) Product moments = $\Sigma x^m y^n \dots z^p/N$ Herein two or more variables raised to the same or different powers are multiplied together before summation The most common **product moment** is the **covariance**]

moments/method of = a general method for fitting any desired theoretical curve to a particular observed distribution [The curve-fitting consists in finding what parameter-values of the desired theoretical curve will yield the same **moments** (4) as the empirical distribution The best fitting normal curve (e g) will have

the same zero, first, and second moments as the observed distribution]

momentum = the product of the mass of a moving body and its velocity [The unit is one gram-centimeter per second] — Fr *moment*

monad = 1 (*metaph*) an individual, independent unit having the characteristics of both mind and matter [A Pythagorean concept, revived by Giordano Bruno, adopted by Leibnitz as a means of overcoming both the dualism of Descartes and the monism of Spinoza The world-view based on this conception is called **monadism,** distg fr **monism,** any world-view based upon a single type of unit]

monad = 2 (*biol*) a small flagellate protozoan which has a single flagellum

monaural (or uniaural) hearing = hearing with one ear alone [Contr w **binaural** = with the two ears conjointly, the form **monaural** is etymologically incorrect] — Fr *audition mon-auriculaire*, Ger *einohriges Hören*

mongolian = the name given by Langdon Down to certain aments because of the fancied presence of Mongolian facial characteristics **mongolism**[n], **mongolian**[a]

monism = 1 the theory that ultimate reality is qualitatively of one sort, 2 syn for **singularism,** 3 (*epist*) the theory that absolute reality is presented immediately in conscious experience [Contr w **dualism** and **pluralism**] **monistic**[a], **monist**[n p]

monition = (*psych res*) an alleged revelation of some past or present event by other than in the normal senses [A form of **cryptesthesia** Cf **metagnomy**]

monkey = a term commonly used to designate the common smaller primates — Fr *singe*, Ger *Affe*

monochord = a one-stringed instrument, with a scale of division into parts, used for testing hearing and musical ability [Cf **sonometer**]

monochorial twins, see **twins**

monochromatism, monochromatic vision, see **achromatism**

monocular (or **uniocular) vision** = vision with one eye alone [Contr w **binocular vision** = w both eyes acting conjointly The form **monocular** is more frequently used, but is etymologically incorrect] — Fr *vision monoculaire*, Ger *einäugiges Sehen*

monoecious = 1 (*zool*) having both sexes in one individual, 2 (*bot*) having stamens and pistils on different flowers of the same plant [Syn (1) **hermaphroditic**]

monogamy = the durable pairing or mating of two individuals of opposite sex [Distg fr **polygamy** = durable mating with several members of opposite sex and fr **promiscuity** = absence of durable sex relations] **monogamous**[a]

monogenism = the theory that the various human races developed from a single ancestral human stock **monogenist**[n p]

monoglottic = a term applied by Henning to gustatory stimulation acting upon a small area of the tongue [Cf **dichoglottic, diglottic**]

monogony = asexual reproduction

monograph = an exhaustive treatise or report on a single specific (i e subordinate) topic

monoideism = (*hist*) a pathological condition characterized by a tendency on the part of an individual to revert constantly, in thought and talk, to some one subject of action [Cf **fixed idea, monomania**] — Fr *idée fixe*, *monoidéisme*

monomania = a mental disorder characterized by dominating or fixed ideas, in the presence of an otherwise integrated personality [No longer used technically Syn **paranoia**]

monomuscular reflex = motor response of a single muscle, elicited by stimulating its proprioceptors, or in some cases by a cutaneous stimulus

monoplegia = paralysis confined to a single member of the body [Cf **hemiplegia**] **monoplegic**[a].

monorhinic = a term used by Henning to characterize smelling with one nostril only [Cf dirhinic, dichorhinic]

monotone = continuous sameness of pitch during speaking

monotonic = (*math*) descriptive of a curve which is continually rising or continually falling, so that each of two variables is a single-valued function of the other

monotony = 1 lack of inflection or cadence in speaking or singing, 2 continuance of an uninteresting situation without change, resulting in boredom **monotonous**[a].

monotreme = a primitive egg-laying mammal which has a single opening for the urogenital system and alimentary canal [The best known representatives are the duckbilled platypus (Ornithorhynchus) and the spiny ant-eater (Echidna), both Australian]

monotypic evolution = the development of a group in any direction without the formation of divergent lines of development [Distg fr **polytypic evolution,** which involves the formation of diverging groups]

monozygotic twins, see **twins.**

monster = an organism which diverges greatly from the normal of the species [Distg fr **sport** = slight deviation, and fr **malformation,** confined to a single part] **teratological**[a].

mood = an enduring, but not permanent emotional attitude [Distg fr **temperament,** a more permanent attitude] — Fr *humeur*, Ger *Stimmung*

moon-blindness = 1 syn for **night-blindness,** 2 (*pop*) **amblyopia,** said to result from sleeping in the moonlight in the tropics — Fr *cécité crépusculaire*

moon-illusion = an illusion of visual magnitude, in which the moon appears larger on the horizon than at the zenith — Fr *illusion de la lune à l'horizon*

moral = 1 pert to morality, 2 characterizing conduct which is called good or right, i e which conforms to standards accepted throughout the group in which the individual lives, and which are usually believed to be based upon some sanction more absolute and authoritative than the will of individuals [Originally corresponding to custom (mores) Contr (2) w **amoral** and w **immoral**]

moral faculty = (*hist*) the mental power or capacity to distinguish between right and wrong, or to evaluate specific acts as right or wrong

moral imbecile = a mentally defective individual with pronounced criminal tendencies [Obsolescent] **moral imbecility**[n]

moral insanity = (*hist*) a term used to designate

a supposed symptom-complex marked by an impairment of moral values — Fr *folie morale*

moral judgment = a judgment concerned with distinctions between right and wrong, or with evaluating specific acts as right or wrong

moral science, see **ethics.**

moral sense = the capacity to distinguish between right and wrong conduct and to evaluate each

morale = the individual (or more generally the group) attitude in respect to confidence, perseverance in work, and adherence to ideals [Usually implying a high degree of perseverance Syn **esprit de corps** (as group attitude)] (Accent **-ral**)

morality = conduct of the individual which conforms to the standards set by the community, particularly those standards which deal with right and wrong [Often believed to rest upon a more absolute authority than mere convention, an authority such as the public conscience, the categorical imperative, natural or divine law, etc Distg fr **ethics** = science of morality] **moral**[a] (distg fr **ethical**[a] in the same way, though the two are often confused)

morals = 1 personal or social standards of behavior regarding the rightness or wrongness of acts of conduct, 2 the appraisal of the behavior of an individual as measured by standards of right and wrong commonly accepted in the group in which he lives [Distg fr **morality,** the abstract character, and **ethics,** the systematic investigation of morality]

morbid = pert to or attending an abnormal or diseased condition [In psychol generally confined to tendencies suggestive or productive of disease, and characteristic ideas or behavior attending them, distg fr **pathological,** a more general term] **morbidity**[n] = frequency of disease, **morbidness**[n] = the condition itself — Ger *krankhaft, ungesund*

mores[pl] = customs which a social group regards as the only right ones and as vital to the welfare of the group (e g monogamy among Christians) [Cf **folkways**] (2 syll) **mos**[sing] (rare)

Morgan's (or **Lloyd Morgan's**) **canon** = a canon or maxim for the evaluation of data in animal psychology, formulated by Lloyd Morgan, which states that an act of behavior may not be interpreted as due to the operation of a higher mental faculty or function if it can be interpreted as the outcome of one which stands lower in the psychological scale [Cf **economy/principle of**]

moron = an individual who manifests the highest grade of feeblemindedness, i e who most nearly approaches the normal [Generally limited to those who maintain throughout adult life a mental age of approximately from 8 to 12 years (Goddard), or an intelligence quotient ranging approximately from 51 to 70 (Terman) Cf **feeblemindedness**] **moronity** (or **morosis**)[n], **moronic**[a] — Fr *arriéré simple, débile simple*

morphin = the principal alkaloid of opium, $C_{17}H_{19}NO_3$ [It is an analgesic, hypnotic in cases of pain, and narcotic]

morphinism = addiction to the use of morphin

morphogenesis = the development of form or structure in organs or organisms

morphological index = (*anat*) a quotient obtained by dividing the volume of the trunk by the length of the limbs (Naccarati)

morphology = the branch of biology concerned with the structure of organisms [Syn **anatomy**] **morphologic(al)**[a]

mosaic eye = a compound eye which contains numerous ommatidia (distinct units) so arranged as to result in a mosaic pattern of vision [Cf **compound eye**] — Fr *oeil en mosaïque*

Mosso balance, see **balance/Mosso**

mother complex (or **fixation**), see **Edipus complex.**

mother instinct, see **maternal behavior.**

motile[a] = characterizing organisms which are capable of moving from place to place [Contr w **sessile** = fixed in location, distg fr **mobile** = capable of axial movement (e g the arm, eye, etc)]

motile[n], **motor type** = a class of individuals in whom kinesthetic experiences and ideas predominate [Cf **type/mental**]

motility = 1 capacity to make complex and coordinated movements, 2 capacity to move from place to place, 3 (*ind differences*) the style and speed which characterize an individual's habits of movement [Cf **mobility**]

motion = continuous change of position [Cf **movement**] — Fr *mouvement*, Ger *Bewegung*

motion/illusion of = a mental experience in which a motionless object appears to move [Often a question of relative motion, e g setting sun, moon among the clouds, one train as seen from another, sometimes due to the after-effect of continuously perceived motion, as in the **waterfall illusion,** apparent motion of the road in front when one's motor car stops, etc Cf **phi-phenomenon**]

motion picture = a series of photographic (or other) views of a changing scene, presented in rapid succession, so that the objects, persons, etc in the scene appear to be moving [Cf **cinematograph** Syn (*pop*) **moving picture, movie**] — Fr *cinéma*, Ger *Kinematograph*

motion study = (*industrial*) the systematic observation of workers engaged in a repetitive task, to determine the nature and sequence of each element of the cycle of movements made, in order to eliminate unnecessary movements and establish the best sequence, thus reducing fatigue while increasing output [The usual technique involves moving pictures or continuous photographs with a small lamp attached to the moving member under consideration]

motivate = to serve as an incentive or to provide an incentive for an act [E g hunger motivates the act of eating] **motivation**[n]

motivation = 1 the application of incentives to individuals from whom activity is desired, 2 the investigation of motives and incentives

motive = a conscious experience or subconscious condition which serves as a factor in determining an individual's behavior or social conduct in a given situation — Fr *motif*, Ger *Triebfeder, Motiv*

motive/ethical = 1 a situation in the behavior of an individual in which the choice of a given act is characteristically accompanied by considerations of right and wrong, so that the act performed is that which the individual judges to be right, 2 an inner force or principle assumed to determine the choice of an individual's conduct according to ethical standards or considerations of right and wrong

motoneuron = a motor neuron, i e a nerve cell which is in direct connection with an effector

and exercises an excitatory or inhibitory influence upon it

motor = pert to movement or to the mechanism or consciousness of movement [Cf **movement**]

motor activity = 1 syn for **movement**, 2 bodily activity involving muscular processes, 3 muscular and glandular activity [(3) is not contr w vegetative or visceral processes, but includes these]

motor amusia, — aphasia, see **amusia, aphasia**

motor area = the ascending frontal or pre-rolandic convolution and (less directly) the ascending parietal or post-rolandic convolution of the cerebral cortex [A projection area within which electrical stimulation of any point elicits contraction of some definite skeletal muscle or circumscribed group of muscles This correlation between individual muscles and points of the motor area is the best attested evidence in support of the brain **localization theory**] — Fr *aire motrice*, Ger *motorisches Zentrum*

motor experience, motor consciousness = the organized information or data received by an individual concerning his own bodily movements or attitudes

motor function = a generic term embracing centrifugal or efferent neural processes and the end-organ activities excited thereby [Contr w **sensory function** = afferent processes and their excitation]

motor habit = training of the response mechanism so as to develop many varieties of behavior and to increase the precision and speed of performance [Contr w **sensory habit** = training of discrimination between stimuli, but the differentiation is usually not easy in practice, and appears superficial] — Fr *habitude motrice*

motor incoordination, see **incoordination/motor**

motor learning = learning in which bodily movements are conspicuous [For practical purposes, this type of learning, which results in better execution, is distg fr **ideational learning** or **insight**, which may give a correct idea without facility of performance] — Fr *apprentissage moteur*

motor nerve = a nerve which conveys impulses from any center toward the periphery [Syn **efferent nerve** Contr w **sensory nerve**, which conveys impulses toward the centers]

motor organ = 1 a muscle or contractile tissue which receives nerve impulses, and whose contractions or relaxations from these excitations constitute responses of the organism, 2 syn for **effector**

motor point, see **neuromuscular junction**

motor reflex = 1 (*zool*) a stereotyped mode of response found in primitive forms such as the Protozoa, 2 a direct muscular response to stimulation which occurs through the mediation of the central nervous system [In Paramecium (1) consists in swimming backward by a reversal of the ciliary beat, and turning to the aboral side, (2) contr w **glandular** and other types]

motor (or **muscular**) **response type**, see **response type**

motor sense = a sense dependent on receptors embedded in the deeper tissues of movable parts, which is stimulated by tension or movement of the parts, and furnishes data concerning the creature's bodily movements and the positions of its members [The receptors of these senses are termed *proprioceptors* Sometimes extended to include the **static sense** Cf **kinesthesia**]

motor skills, see **proficiencies**

motorium = the cortical and subcortical centers directly concerned with the innervation, through efferent nerves, of striped muscle [Contr w **sensorium**.]

mouth-writing = writing produced by holding the writing implement between the teeth and moving it with the help of the tongue [Cf **foot-writing**] — Fr *écriture buccale*

movement = 1 change in position of some member of the body, usually through muscular contraction, 2 change in position of an object, i e physical motion [**movement** (1) is classed as (*a*) **active** = bodily change resulting entirely from efferent innervation and contraction of muscles affecting the parts moved, and (*b*) passive = bodily change or resting of limp members resulting from external physical displacement, the kinesthesis of passive movement is more poorly discriminated than that of active movement In psychol it is preferable to confine the term to (1), distg fr **motion** = physical displacement] **move**^{v}

movement/illusion of = an experience involving motor sensations from a non moving member [Sometimes applied also to the apparent (illusory) motion of objects, etc , cf **apparent (motion or) movement**]

movement/random, see **random movements**

movements/spontaneous, see **spontaneous movements**

moving average method = (*statist*) a method of smoothing a series, in which the frequencies in successive classes of items are replaced by arithmetic averages of a number of neighboring classes — Fr *m de polissage*

mucous membrane = (*anat*) a layer of soft tissue which secretes slimy substance — Ger *Schleimhaut*

Müller's circle = a circle which passes through the fixation point and nodal points of the two eyes, and which lies in the plane of regard when the eyes are in the primary position of convergence [Cf **horopter**, of which this circle forms part]

Müller-Lyer illusion = an illusion of visual space perception, in which two physically equal distances appear unequal, due to the partial enclosure of one distance and an apparent widening of the other by lines, arrow-heads, etc

Müller-Lyer rectangles = an illusion of the comparative extent of two rectangular areas partially enclosed, in the one case by the neighboring sides of two squares, and in the other case by the neighboring sides of two rectangles of the same length as the dimensions of the square and separated by the same distance as are the squares

multicellular = consisting of many cells [Distg fr **unicellular** = one-celled]

multicellular organisms, see metazoa

multi-individual behavior = the approximately simultaneous (though not necessarily similar) reactions of a considerable number of individuals in the same situation or circumstances [Cf **pluralistic behavior**]

multimodal theory of intelligence = the view that intelligence is a pattern of an indefinite number of specific capacities (Thorndike) [Contr w **two-factor theory** (Spearman)]

multimodality = (*statist*) that characteristic of a frequency distribution which results from its having several modes or peaks [Cf **mode** (2)] **multimodal**[a]

multiple choice method = a procedure employed in investigations on motor learning, in which two or more alternative modes of response, equally available, are presented simultaneously, only one of which leads to the actual goal or end-result designed by the experimenter [Distg fr **delayed reaction method**, in that no cue indicating the correct response is given by the experimenter Sometimes used in investigations of reasoning capacity]

multiple choice test = a type of test in which a test item or problem is presented to the testee, with two or more alternative responses, only one of which is correct, the task being to designate the correct response [Includes yes-no, true-false, right-wrong types, but oftener applied to use of three to five (or more) responses E g tests 7 and 8 of Army Alpha Syn **alternative response test**]

multiple correlation, see **correlation**

multiple personality, see **personality/multiple**

multiple sclerosis = a disease marked by sclerosis or hardening of various spots in the brain and cord, and characterized by motor incoordination, hallucination, etc — Fr *sclérose en plaques*

multiplicity = that which is made up of many diverse elements, or the characteristic of being so composed

multipolar cell = a nerve cell which has several processes, i e projections [Distg fr **unipolar** and **bipolar cell**]

multivalence = the normal (freer) functioning of evaluations and interests concerning any object, as contr w conflicts [Cf **ambivalence**]

Munsell colors = a group of samples of colored surfaces associated with symbols, according to a system of notation by which colors of every hue, saturation, and brilliance are systematically designated by appropriate combinations of letters and numerals [So called from the designer of the system Cf **Ridgway colors**, similar in general character]

muscae volitantes[pl] = a type of entoptic phenomenon, due to the presence of small foreign particles in the lymph between the vitreous humor and the retina of the eye [They float about and change their form, being thereby distinguished from imperfections in the lens, which do not change, and from the darting blood corpuscles visible under certain conditions Lat "flying flies" Cf **entoptic phenomena**] — Fr *mouches volantes*

muscarin = the alkaloid of one of the poisonous mushrooms, amanita muscaria [Closely related chemically to choline It stimulates glandular secretions and contracts the pupil]

muscle = a structure composed of many fibers of contractile tissue, the combined contraction of which, due normally to neural excitation, produces gross movement of the structure [Cf **antagonists, musculature/skeletal, smooth muscle, striate muscle**] — Ger *Muskel*

muscle-balance = 1 the tendency of either eye to remain in the position of fixation, when fusion of the images is prevented, e g by covering this eye alone, 2 the degree to which the eyes fulfill or fail to fulfill this test [Cf **imbalance/muscular**.]

muscle erotism = (*psychoan*) sexual excitation or pleasure produced by muscular activity

muscle imbalance, see **imbalance/muscular**

muscle-nerve junction, see **neuromuscular junction**

muscle reading = the interpretation by one person (the percipient) of ideas or willed commands in the mind of another person (the agent) from involuntary muscular signals given by the latter and received by the former through physical contact [A form of **mind-reading**] — Fr *lecture de la pensee par les muscles*

muscle (or muscular) sensation, muscle sense, see **kinesthesia** — Ger *Muskelsinn*

muscle spindles = a specialized end-organ in muscle consisting of a modified muscle fiber surrounded by an encapsulated sensory nerve ending of complex structure and lying in parallel with the active fibers [They respond to passive stretch] — Fr *fuseaux musculaires*

muscle tonus = a state of partial contraction reflexly maintained which keeps the muscles taut and thus prevents slack, especially in the maintenance of the various postural reflexes [Syn **muscle tone, tonicity**]

muscular = pert to muscle

muscular atonicity, atrophy, etc, see **atonicity, atrophy**, etc

muscular incoordination, see **incoordination/motor**

muscular reaction type, see **reaction type**

muscular reflex = 1 the reflex contraction of a muscle when it is stretched, 2 the operation of a reflex arc which results in contraction of a muscle, as contr w glandular secretion, etc [Syn (1) **myotatic** or **stretch reflex**]

muscular (or **motor**) **response** = a response in which the subject's attention during the fore-period is directed toward making (or muscularly preparing for) the response, rather than toward the stimulus [Syn **muscular** (or **motor**) **reaction** Distg fr **sensory** and fr **natural response** (or **reaction**) Usually applied to the **reaction-time experiment** Cf **compound reaction**]

muscular rigidity, see **tetanus, rigidity/muscular**

muscular twitching = spasmodic involuntary contractions of muscle — Fr *contraction musculaire spasmodique*

musculature/skeletal = those contractile tissues of the body innervated by somatic nerves which are under control of the central nervous system and are responsible for all external movements of the animal body in space [The individual contractile fibers are characterized histologically by crossed striations Cf **smooth muscle, striate muscle**]

musculature/smooth, see **smooth muscle**

music = the branch of esthetics which investigates the principles of pleasing or expressive tonal combinations and sequences [It includes **melody** and **harmony**] **musical**[a] = pert to music or characterizing pleasing tonal effects

music deafness, see **tone-deafness**

musical scale, see **scale/tonal**

musical tone, see **tone** (1)

musk = the dried secretion from the preputial follicles of Moschus moschiferus, characterized by a strong and persistent odor — Ger *Moschus, Bisam*

mutation = 1 (*biol*) a suddenly appearing variation which is transmitted to the offspring, 2 the act of producing sudden heritable variations [Formerly the term connoted a variation of considerable magnitude sufficient to produce a new variety or even species, it is now recognized that there is no essential difference between large hereditary variations and those which are barely detectible Syn **saltation**, cf **variation**] — Fr *mutation, saut*

mutilation = (*anthrop*) the cutting, amputating, scarifying, and incising of the body common among primitive peoples, including incision, circumcision, and excision [Usually distg fr (intentional) **deformation**, e g head-flattening] — Ger *Verstummelung*

mutism, mutitas = lack of development of the speech function [Usually associated w **deafness** Syn **dumbness** Contr w **aphasis** = disturbance of speech function due to structural defect or injury] **mute**^{a}, **mute**^{np} — Ger *Stummheit*

m v = abbrev for **mean variation**

mydriasis = 1 extreme dilatation of the pupil of the eye, 2 abnormal dilatation of the pupil due to disease or to the effect of a drug such as atropin [Contr w **myosis**] (Accent **-rye-**) **mydriatic**^{a}

mydriatic^n = a drug which causes enlargement of the pupil and also relaxation of the ciliary muscle [Contr w **miotic**] **mydriasis**^{n} = the result

myelencephalon = 1 the cerebrospinal system, 2 (*embryol*) that portion of the medulla oblongata lying caudad to the pons and cerebellum [Syn (2) **after-brain**] — Ger *Nachhirn*

myelin, myelin sheath = the white covering formed by the substance of Schwann, which envelops the medullated (or myelinated) nerve fibers — Fr *gaine myelinique, g medullaire*, Ger *Markscheide*

myelinated, see **medullated**

myelinization, myelination = the formation of the myelin sheath [Syn **medullation**]

myelitis = an inflammatory condition of the spinal cord

myelon, see **spinal cord**

myenteric reflex = a contraction above and relaxation below a stimulated portion of the intestine [Similar to **peristalsis**]

myogenic, myogenetic = originating in the muscular tissue

myograph = an instrument for measuring either the extent, force, and duration of isotonic muscular contraction, or the tension and duration of isometric contraction, commonly it consists of a pivoted recording lever of the third class, operated by the given muscle, and with its free pointed end making a kymographic or photographic amplified tracing of the muscle movement, i e a **myogram** [Measurements of *isotonic* contraction are made by having the muscle contract against a relatively small constant resistance, such as that of a mass suspended from the lever, *isometric* measurements are made by making the muscle act against a strong spring which permits of but slight change in muscle length]

myology = the branch of anatomy which deals with muscles

myoneural junction, see **neuromuscular junction**.

myopia = a refractive defect of certain eyes, such that, with relaxed accommodation of the lens, parallel rays of light are brought to a focus before they reach the retina [Syn **near-sight(edness)** Contr w **hypermetropia (hyperopia)**, in which the rays focus behind the retina] **myopic**^{a} — Ger *Kurzsichtigkeit*

myosis, miosis = 1 (*ophthal*) extreme contraction of the pupil, 2 abnormal contraction of the pupil due to disease or to the effect of drugs such as morphin or eserin [Contr w **mydriasis**] **myotic**^{a}, **miotic**^{a}

myotatic reflex = reflex contraction of a muscle produced by suddenly stretching it longitudinally [The proprioceptive organs stimulated by this tension, and responsible for the reflex contraction, are believed to lie in the muscle fibers themselves, not in the tendon Syn **stretch reflex, muscular reflex**]

myotomy = experimental or operative separating of muscles one from another [Syn **dissection of muscles**]

myrmecophily, myrmecophilism = relations to the ants of their numerous guests and parasites, and of the plants frequented by ants (W M Wheeler)

mysophobia = morbid fear of dirt or contamination [Manifested by constant washing of hands, etc It may be a symptom of the compulsion neurosis]

mysterious = 1 unexplained and puzzling, 2 (*pop*) secret and known only to the initiated [The word has generally an emotional tinge, which is lacking in the synonyms **unknown, unexplained** Cf **magic**] **mystery**^{n} — Ger *geheimnisvoll*

mysticism = 1 the doctrine that ultimate reality is revealed through a special mode of knowledge, which is distinct from perceptual and ideational cognition and is superior to them, 2 (*pop*) the view that certain events are supernatural, i e that they occur in violation of the known or knowable principles of the workings of nature [Syn (2) **occultism** Cf **magic**] **mystic(al)**^{a}, **mystic**^{np}

myth = 1 (*anthrop*) a tradition without actual historical basis, 2 an accepted theory, etc in the realm of science, which is demonstrably false [Cf **magic** Contr (1) w **legend**, which has a historical basis] **mythical**^{a} — Ger *Mythos, Heldensage*

mythology = (*anthrop*) a body of more or less fixed narratives embodying beliefs and accounts relative to the supernatural, including the exploits of gods, magicians, and culture heroes, as well as the assumed supernatural experiences of historical individuals [It embraces a large part of the unwritten literature of a people Cf **folklore**]

mythomania = 1 a tendency to exaggerate and report imaginary adventures, 2 (*psych res*) the process by which a subject in a state of trance or hypnosis personates a character as a result of suggestion, i e the utilization, in personation, of a vaster store of memories and of feelings than are available to the subject in ordinary conscious life [Syn (2) **induced prosopopesis**]

myxedema, myxoedema = a disease characterized by a decreased functioning of the thyroid gland, possibly through atrophy of the gland, resulting in an increase in adipose tissue, with thickening and serous infiltration of the skin, and usually accompanied by mental deficiency

N

nadir = 1 the point or location directly beneath the observer, 2 the lowest point in a given system of phenomena [Contr w **zenith**.]

naive = 1 characterizing an unreflective, child-like attitude toward the problems of society and life, 2 indicating a fresh and unbiased approach to scientific problems [The masc form **naif** is not often used in English] (Pron **nah-eve**) **naiveness**ⁿ, **naiveté**ⁿ, **naively**^{adv}

name = a verbal expression associated symbolically with a person, object, event, or other phenomenon, or with a relation, etc such that when used it suggests this datum [Primarily a spoken word (auditory stimulus), transferred to written words (visual), applicable also to gestures, touch forms, etc used by the deaf or others] **nominal**^{a} (used more broadly) — Fr *nom*

Nancy school = the school of hypnosis founded by H Bernheim at Nancy, France, in 1882, which held in general that hypnosis is a normal phenomenon induced by suggestion [Based on the views of J Braid and A A Liebeault, and opposed to J M Charcot's school of La Salpêtriere, which associated hypnosis with the pathology of hysteria]

nanism = abnormal smallness of size supposedly due in certain instances to disturbances of certain endocrine glands [Syn **dwarfism** It is due to various causes **pituitary nanism** = a type related to hypofunction of certain elements of the anterior lobe of the pituitary body Cf **gigantism**]

napier, see **neper**

narcissism = 1 syn for **self-love**, 2 (*psychoan*) the persistence of an early stage of psychosexual development, in which the sexual object, or love-object, remains the self [From the myth of Narcissus Syn **narcism**, etymologically incorrect An important factor in the psychoanalytic theory of homosexuality] **narcissistic**^{a}

narcissistic type = (*psychoan*) a psychological type in which the chief interest is focused on self-preservation (Freud)

narcolepsy = an uncontrollable desire for sleep, manifested at intervals

narcosis = 1 (in general) a physiological condition in which the normal responsiveness or automatic activity of a living system — organism, tissue, or cell — is temporarily decreased or obliterated, 2 (more specifically) a state of stupor produced by certain drugs or poisons in higher animals, which passes into insensibility and motor paralysis **narcoses**^{pl} — Ger *Narkose*

narcoticⁿ = a drug which induces narcosis, a condition of stupor, diminished sensitivity to pain, motor paralysis, and a tendency toward sleep

nares^{pl} = the nasal passages [Syn **nostrils**] (2 syll) **naris**^{sing} — Ger *Nasenlocher*

narrative method = method of obtaining testimony (or an account of events) by allowing the observer to relate the facts in his own way without interrupting him with hints or suggestions

nasal = pert to or located on or in the nose (Accent **nay-**)

nasal cavities = the two chambers, right and left, above the roof of the mouth, which contain the olfactory receptors and through which the breathing current passes from the exterior nose to the pharynx [Syn **nasal fossae**]

nasal reflex = sneezing elicited by irritation of the mucous membrane of the nose [Mediated by V cranial (sensory) and 4th cervical nerves]

nascent = in the earliest stages of development [Applied to structural growth of cells and organs, to growth of functions and to unfolding of ideas, movements, etc Distg fr syn **incipient**, which implies possibility of a check in development, and **implicit**, which applies to movements, and denotes an actual check] **nascence**ⁿ, **arise**^{v} — Fr *naissant*

nasomental reflex = contraction of the mentalis muscle with elevation of point of chin elicited by a blow on side of nose [Mediated by the trigeminofacial arc]

nasopharynx, see **pharynx**.

nation = a collection of people, usually large and occupying a common territory and possessing a fairly uniform culture, who, in their sentiments and behavior, express loyalty to a common national symbol

National Intelligence Tests = two batteries of tests, Scale A and Scale B, each consisting of five sub-tests and made up in five comparable forms, devised in 1919 under the auspices of the National Research Council by Haggerty, Terman, Thorndike, Whipple, and Yerkes [Scale A includes arithmetical reasoning, sentence completion, logical selection, same-opposite, and symbol-digit tests, Scale B includes computation, information, vocabulary, analogies, and comparison tests Both scales are standardized for use in school grades III to VIII]

native = present in the individual at birth [Syn **inborn** Generally used to characterize inherited or congenital structure and functions, strictly it should include transmitted disease germs, etc which are not part of the biological inheritance Cf **nativism**] — Fr *inne*, Ger *angeboren*

native endowment = the sum-total of an organism's inherited capacities for response and mental functioning [Contr w **acquisition through experience** Cf **native trait**]

native trait = 1 any capacity or structural characteristic which is inherited, 2 a characteristic conditioned in part by pre-natal environment, esp by the organic environment of the embryo and of the germ plasm [Contr w **acquired trait** The sum-total of native traits is called **native endowment**] — Fr *don inne, trait inne*

nativism = a term introduced by Helmholtz to designate the historical view that certain elements or factors in human knowledge are inherited and are consequently present in the individual independent of stimulation and experience [Cf **innate ideas** Contr w **empiricism**, which attributes all knowledge to experience]

natural^{a} = a loose adjective, signifying formed by nature, pert to nature (e g natural science), as found in nature, as would be expected apart from training, unconstrained, etc [Technically contr w (*a*) **artificial** = produced by human agency, (*b*) **acquired**, (*c*) **constrained**, and (*d*) **unnatural** = (assumed to) violate the basic functions of the (human) species Cf **nature**]

naturalⁿ = (*mus*) a tone which has neither a flat nor a sharp for its signature [Cf **flat, sharp**]

natural law = 1. a general statement of the principles according to which the phenomena of the universe proceed, with special reference to their interrelations; 2. any sanction of social behavior based on established custom, divine sanction, etc. rather than on legislative enactment. Syn. **law of nature**. Contr. (1) w. **human law**, (2) w. **positive law**.] — Fr. *l. naturelle*; Ger. *Naturgesetz*.

natural philosophy = (*hist.*) syn. for the **natural sciences**, more particularly physics, chemistry, and astronomy. [Distg. (*hist.*) fr. **mental philosophy** = psychology.]

natural or **mixed reaction** (or **response**) = a response in which the subject's attention is left undetermined in the fore-period, and which tends to vary between the **sensory reaction** and the **muscular reaction**.

natural scale = a scale of just intonation. [E.g. the major diatonic scale. Cf. **just intonation, scale**.]

natural sciences = the branches which investigate the phenomena of nature and formulate the principles according to which they occur. [Syn. **sciences of nature, nature sciences, science** (ambig.). Originally contr. w. **mental science** and w. **normative sciences** (logic, ethics) as well as w. **metaphysics**. Today contr. chiefly w. **social sciences**. A term of doubtful value, owing to its ambiguities.] — Ger. *Naturwissenschaften, Naturforschung*.

natural selection = the elimination of those individual organisms which are least well adapted to the environment, with the survival and greater proportionate increase of those which are better adapted. [On the basis of this process, Ch. Darwin formulated a theory of evolution. The operative factor, according to this theory, is **competition** (or **struggle**) **for existence**, the result is **survival of the fittest**.] — Ger. *natürliche Auslese*.

naturalism = (*metaph.*) the theory that nature as the totality of spatio-temporal objects is the only reality.

nature = 1. the sum total of phenomena in the universe together with all their modes of interrelation; 2. (*biol.*) the inherent constitution or make-up of an organism.

nature/law of = the verbal statement of a more or less fundamental uniformity found in nature. [Syn. **natural law** (also used abstractly). Cf. **law** (1).] — Fr. *l. de la nature*.

naturism = (*anthrop.*) the belief, probably antecedent to animism, that there is power or **mana** in nature.

nausea = a complex sensation of varying genesis and unpleasant affective tone, accompanied by a tendency to gastric contraction and (if intense) by vomiting. [Salivation, sweating, dizziness, dull epigastric pain, vasomotor disturbances may enter the complex in varying degrees.] — Ger. *Übelkeit*.

nauseous, see **putrid**.

Neanderthal man = the best known extinct species of man, first discovered in 1856 at Neanderthal, Germany; later skeletons were found in Belgium, Croatia, France, and elsewhere. [As now known, the geographical range of this species was from extreme western Europe to central China. In western Europe the species is identified with Middle Palæolithic cultures and possibly originated in the Lower Palæolithic.]

near-sight, near-sightedness, see **myopia**. — Ger. *Kurzsichtigkeit*.

necessary = 1. characterizing either (*a*) any factor, element, or condition without which a given result is unobtainable, or (*b*) the result as dependent upon such factors; 2. characterizing a conclusion which follows logically from the premises or the connection between subject and predicate in a judgment; 3. imposed upon an individual by force or by his recognition of a compelling moral principle. [Contr. (1, 2) w. **contingent**, and (3) w. **free**. Cf. **necessity**.]

necessary antecedent, see **antecedent/necessary**.

necessity = 1. an unavoidable sequence of events or of thought; 2. a very powerful need. (1) **necessary**[a], (2) **needful**[a]. — Ger. *Notwendigkeit*.

necromancy = the branch of magic which claims to reveal future events through communication with the dead. **necromancer**[n,p].

necrophilism, necrophilia, necrophily = morbid (sexual) attraction toward dead bodies.

need = 1. any factor or condition in the environment of an organism which assists to a marked extent in preserving its life and health or in furthering its usual modes of behavior; 2. the experience which is aroused by the lack of such factor or condition; 3. a condition of the tissues which determines seeking or adient behavior. [Syn. **want**, which emphasizes the idea of lack.] — Fr. *besoin*; Ger. *Bedürfnis*.

neencephalon = the cerebral cortex and the parts of the brain developed in relation to it (Edinger). [Liter. **new brain**. Cf. **telencephalon**. Contr. w. **paleencephalon**.]

negation = denial or disproof of a statement or refusal of a suggestion. [Cf. **negativism**.] **negative**[a].

negative[a] = (*math.*) characterizing a quantity less than zero, or extension in a direction opposite to that called **positive**.

negative[n] = a word or other expression which denotes dissent or negation. **negative**[a].

negative acceleration, see **acceleration**.

negative adaptation = gradual cessation of response to a continuous or repeated stimulus. [It occurs with stimuli when the response produces no biologically useful result.]

negative after-image, see **after-image/negative**.

negative magic, see **taboo**.

negative response (or **reaction**) = a response which is directed away from the source of stimulation. [Contr. w. **positive response** = toward the source.]

negative self-feeling = the feeling associated with whole-hearted submission of oneself to another's domination. — Fr. *sentiment negatif de soi*.

negative sensation = a term suggested by Fechner to designate a sensation whose stimulus is below the absolute limen or threshold.

negative supporting reaction = resolution of a positive supporting reaction (static reflex), thereby enabling the limb to be used for purposes other than support.

negative therapeutic reaction = (*psychoan.*) resistance to recovery from a neurosis produced by an unconscious sense of guilt (Freud).

negative transfer = the transfer of training effects from one act to another (somewhat conflicting) act, resulting in impeding the latter. [E.g. practice in proof-reading to note misspellings

may develop techniques which interfere with rapid reading for the meaning Cf **transfer of training, interference** (2) Contr w **positive transfer**]

negative transference (*psychoan*), see **transference**

negative tropism, negative taxis = a simple orienting response, in which the organism turns away from an external source of stimulation [Contr w **positive tropism, positive taxis**]

negative variation = the normal electrical response of active tissue [In physiological experimentation, the negative potential change which results from stimulation of nerve or muscle Cf **action-current**]

negativism = an attitude characterized by strong resistance to suggestions coming from others, to the extent of carrying out the opposite of what is suggested [It may be general, or related only to specific kinds of acts, such as refusal to eat, to dress, to hear, to see, or to open the eyes Frequent in children at early ages Syn **contrasuggestibility, contrariety** Distg fr **non-suggestibility** Cf **mutism,** (a special case)] **negativistic**[a]

Negri bodies = rounded bodies present in the nerve cells of animals suffering from rabies [The presence of these bodies is diagnostic of this disease Named from their discoverer, A Negri Many consider them to be parasitic protozoa]

nekton, see **plankton.**

neocatharsis = (*psychoan*) a technical method, sometimes used in analysis, in which the analyst attempts to make conscious the childhood relations of the patient (Ferenczi)

neolalia = speech characterized by a multiplicity of neologisms, i e of words devised by the speaker

neo-Lamarckism, neo-Lamarckianism = the theory of evolution by the inheritance of characters acquired through use or modified through disuse, as propounded by Lamarck and revised to accord with later biological discoveries [Cf **Lamarckism**]

neologism = 1 (*path*) construction of new words, as a characteristic of the insane, of the dream state, and of young children, 2 any newly coined word, or new use of a word or phrase, which is not sanctioned by literary or scientific canons [(2) does not cover the meaning of new discoveries, inventions, etc]

neonatal[a] = pert to the new-born **neonate**[n,p].

neopallium = the cerebral cortex, exclusive of the olfactory pallium [So called because its phylogenetic origin is more recent than that of the olfactory pallium]

neper, napier = a unit of sound-intensity of the same nature as the **bel** and **decibel,** one neper being equivalent to 8 686 decibels [When used for expressing power ratios, the number of nepers N by which the power P exceeds the power P_0 is given by $N = 1/2 \log_e P/P_0$, if used for expressing the current, velocity, voltage, or force ratios when these are working into the same or equal impedances, $N = \log_e a_1/a_0$]

Nernst-Lillie theory of excitation and conduction = the theory that excitation of a living cell results from a change in the electrical polarization of a protoplasmic membrane, following local change of ionic concentration at the membrane surface, the effect is automatically transmitted because of resulting secondary changes (e g of permeability) in the properties of the membrane itself

nerve = 1 a collection or bundle of **neuraxons** or **nerve fibers,** 2 the substance of which neurons are composed **neural**[a] = consisting of nerves, pert to the functions of nerves, etc , **nerve**[a] = pert to the (neural) mechanism or its parts, **nervous**[a] = pert to the pathology of nerve, but **nervous**[a] is frequently used instead of **neural**[a] and **nerve**[a], esp in Britain, the present tendency is to limit this use to the two expressions **nervous system** and **nervous arc.**

nerve/accessory, —/auditory, etc , see **accessory nerve,** etc

nerve block = 1 a local, temporary impairment or complete suspension of the property of a nerve to transmit a wave of excitation, produced by treating a section of the nerve chemically, faradically, etc , 2 regional anesthesia produced by injecting a paralyzing drug in the vicinity of a nerve-trunk (and by other means) — Fr *blocage du nerf*

nerve-cell = 1 the compact mass of a neuron, i e a neuron considered apart from all its branches, 2 a neuron or unit cell of neural substance with all its branches [To avoid ambiguity it is preferable to use syn (1) **cell body** (or **nerve-cell body**), and (2) **neuron**]

nerve center, see **center** (2)

nerve/centrifugal = a nerve which conducts impulses from the central nervous system toward the periphery [Syn **efferent nerve, motor nerve**]

nerve/centripetal = a nerve which conducts impulses from the periphery or the lower centers toward the central nervous system or the higher centers, respectively [Syn **afferent nerve, sensory nerve**]

nerve conduction, see **neural conduction**

nerve deafness, see **deafness** — Fr *surdité nerveuse*

nerve ending = a term applied to the several arrangements of cells among which the motor or sensory axons may terminate [Sometimes the axon is directly applied to the cell innervated] — Fr *terminaison nerveuse,* Ger *Nervenendigung*

nerve fiber = the long, hair-like projection of neural substance which emanates from the cell body [Syn **axon**] — Fr *fibre nerveuse,* Ger *Nervenfaser*

nerve fibers/layer of, see **fibrous layer** and Table XI

nerve-head, see **optic disk**

nerve impulse, nervous impulse = 1 the current or disturbance which is propagated along the nerve fiber as a result of excitation, 2 one pulsation [It typically consists, at least in the skeletal nerves of vertebrates, of a more or less rhythmic series of minute, all-or-none pulsations Syn **wave of excitation**] — Fr *influx nerveux*

nerve/motor, peripheral, etc , see **motor nerve,** etc

nerve-muscle preparation = an excised portion of the organism, consisting of muscular tissue with the nerves pertaining thereto, used in investigating the functions of nerve or muscle

nerve-ring = the earliest example of a central nervous system a double ring of nerve cells and fibers round the margins of the jellyfish, which carry the reproductive organs in certain genera of the Anthomedusae and Leptomedusae

nerve root = a collection of axons connected directly with the cord or brain [Cf **spinal nerve, radix**] — Fr *racine medullaire, tronc nerveux*, Ger *Nervenwurzel*

nerve tract, see **tract**

nerve trunk = a peripheral nerve or bundle of axons, excluding their terminations

nervous = 1 pert to neurons or nerves, or consisting of neurons or nerves, e g the nervous system, 2 pert to disorders or diseases of the nervous system, 3 (*pop*) exhibiting excessive but twitchy and unsustained activity [Cf **nerve, neural**] — Ger (1) *Nerven-*, (3) *nervos*

nervous disease, nervous disorder = any kind of disorder of the nervous system and its functions [Best limited to the structurally and structural-functionally definable disorders, in contrast to the psychodynamically determined disorders improperly called **neuroses**, properly **psychoneuroses**] — Fr *maladie nerveuse*

nervous prostration, see **neurasthenia**

nervous system = the totality of neurons in the body of any organism [More properly, **nerve system**, a term not used in English The human nervous system is divided into the **cerebrospinal** and **autonomic systems**]

nervous system/autonomic,/cerebrospinal,/sympathetic, see **autonomic n s** etc

nesting = the complex behavior of insects, birds, and certain other animals, which results in the building of nests — Fr *nidification*, Ger *Nisten*

neural = pert to the structure or functions of nerves [Cf **nerve**]

neural arc, nervous arc = any connected series of neurons which extends from receptor to effector and is capable of transmitting a wave of excitation, so that, given a stimulus, a response may follow [A more inclusive term than **reflex arc** Syn **sensorimotor arc**]

neural circuit, nervous circuit = a neural pathway capable of conducting impulses from one center to another or from a receptor to an effector

neural conduction, nerve conduction, nervous conduction = the transmission of a wave of excitation along nerve fibers

neural crest = a cellular band lying along the line where the neural folds meet to form the neural tube in the embryo [The **neural crest** develops into the **spinal ganglia**] — Fr *crête neurale*

neural discharge, nervous discharge = the excitation or propagated disturbance which results from stimulation of any point or center in the nervous system [This regularly travels toward the musculature and spreads to a greater number of (motor) neurons than were at first stimulated] — Fr *decharge d'influx nerveux*

neural groove = a groove formed in the neural plate of the embryo, which marks the site of the developing neural tube [Syn **medullary groove**] — Fr *gouttiere neurale*

neural pattern = the spatial or functional arrangement of the nerve cells excited by a given stimulus — Fr *complexus nerveux*

neural plate = the thickened plate of ectoderm within the embryonic disk in which the neural groove is formed

neural process = 1 (*physiol*) any change of state in nerve cells, esp such changes as pertain to the excitation and transmission of nerve impulses, 2 (*anat*) any slender terminal branch, axonic or dendritic, of a neuron or of a nerve [Syn (1) **nerve process** (prefd)]

neural rivalry = a condition in which reflex and cortical control compete for dominance of some **final common path** to a muscle or muscle group

neural tube = the epithelial tube which develops from the neural plate and forms the central nervous system of the embryo [Syn **medullary tube**] — Ger *Medullarrohr*

neuralgia = a nervous disorder characterized by sharp intermittent pain, usually limited to a single nerve, and due to nutritive or functional conditions in the nerve or nerves concerned **neuralgic**[a]

neurasthenia = a condition characterized by lack of physical and mental vigor, by abnormal fatiguability, and often by the presence of phobias [Syn **nervous prostration** The state has no demonstrated relation to elementary nervous functions] (Accent **-the-**) **neurasthenic**[a,np] (accent **-then-**)

neuraxis = the brain and spinal cord, i e the central portion of the cerebrospinal nervous system, regarded as the axis of the neural mechanism

neurilemma = the thin outer membranous covering of a nerve fiber [In medullated fibers it lies outside the medullary sheath Syn **primitive sheath, sheath of Schwann**]

neurilemma cells = cells which are associated with the neurilemmal sheath of the peripheral nerve fibers and are believed by some to be involved in the production of myelin [Syn **lemmocytes**]

neurility, neuricity = the sum of the properties and functions of nerve tissue

neurin = 1 the most important protein constituent of nerve tissue, 2 an extract of nerve tissue employed in therapy, 3 a special form of energy postulated in explanation of nervous action

neurite = the axon and its branches, or collaterals — Fr *cylindraxe*

neuritis = an inflamed condition of a peripheral nerve, accompanied by pain and other disturbances both of sensation and of motion — Fr *nevrite*

neuritis/central = a term used by A Meyer to denote diffuse central fiber degenerations with axonal alteration of the cell bodies, in contrast to peripheral neuritis [Present in pellagra and nutritional deficits]

neurobiotaxis = the principle that the dendrites of nerve cells are stimulated to growth by electrical influences which reach them from other neurons, provided that both groups are simultaneously active [The dendrites grow *toward* other active neurons (cathode pole), and their cell-bodies often migrate in the same direction A form of **galvanotropism** (Ariens Kappers)]

neuroblast = an embryonic neuron

neurocyte = syn for **neuron** [Sometimes limited to the **nerve-cell body**]

neuro-epithelial layer = the layer of rods and cones and the outer nuclear layer of the retina which, when taken together, contain the **neuro-epithelial** or **visual cells** [Cf **retinal layers** and Table XI]

neuroepithelium, neurepithelium = 1 specialized epithelial cells (e g cells of Corti, rod and

cones) in connection with which sensory fibers terminate, 2 the epiblastic cells from which the developing cerebrospinal axis arises

neurofibril, neurofibrilla = one of the small threads or fibers at times observed in the axon of the nerve and assumed by some to be the actual conductors of the nerve impulse **-brils**[pl], **-brillae**[pl]

neurogenic, neurogenetic = forming nerve tissue or stimulating neural energy

neuroglia = supporting tissue of the cerebrospinal axis, which consists largely of a special type of branched cells, called glia cells

neurogram = 1 a term employed by Morton Prince for the impressions or lasting effects produced in the central nervous system as a result of stimulation or of central activity, and constituting the basis of memory, personality, etc, 2 any well canalized central (e g cortical) neural paths [Cf **engram**]

neurohumoral = pert to the physiological relation between nervous and chemical agencies, esp the integration of bodily activities effected by the discharge of nerve impulses and of one or more hormones, e g the secretion of adrenin resulting from splanchnic discharge and acting to supplement and reinforce generalized sympathetic activity

neurology = the branch of biology which investigates the structure and functions of the nervous system **neurologic(al)**[a]

neuromere = a segment of the neural tube which stands in one-to-one relation with a metamere or segment of the body in the vertebrate embryo [Cf **metamere**]

neuromuscular = pert to the structure or functions of nerve and muscle, whether in the body or isolated [Cf **nerve-muscle preparation**]

neuromotor apparatus = (*biol*) a system of interconnected fibrils in a unicellular organism, which probably functions like the nervous system of higher animals in coordinating the movements of motor organs

neuromuscular junction = the surface of contact (i e end-plate) between a motor nerve and the fibers of the muscle which it innervates [It is believed to be a region of decrement, to be susceptible to certain drugs, etc Syn **myoneural junction, muscle-nerve junction, motor point**]

neuromuscular spindles = nerve end-organs located in the muscles [They contain afferent nerve ends which are supposed by some writers to arouse a special sensation of muscular activity (**proprioceptors**), also believed by some to contain efferent fibers] — Fr *fuseaux neuro-musculaires*

neuron, neurone = a neural element, consisting of a cell-body with its projections, including dendrites, axon, and collaterals **neuronic**[a]

neuron (or neurone) theory = the theory that any sensorimotor neural pathway is not a continuous tissue, but consists of separate nerve cells (the **neurons**), which are merely contiguous end-to-end The **neuron**, according to this view, is the histological and metabolic unit of the nervous system (W v Waldeyer, 1891)]

neuronymy = the (systematic) nomenclature of the nervous system and its parts (Accent -ron-)

neuropathy = a diseased condition of the nervous system or of its parts [Cf **neurosis**] (Accent -rop-) **neuropathic**[a] (accent -path-) — Fr *névropathie, maladie nerveuse*, Ger *Nervenleiden*

neurophysiology = that branch of physiology which deals with the functional activities of the nervous system, in particular, that part of the science which treats of the phenomena of conduction **neurophysiological**[a]

neuropil, neuropile, neuropilem = a network of unmedullated nerve fibrils situate at the synapses between two neurons

neuroplexus = a network of peripheral nerve fibers [Cf **plexus**]

neuropore = the opening by which the embryonic medullary tube communicates with the exterior at its cephalic extremity

neuropsychiatry = the branch of medicine which deals with both neurology and psychiatry

neurosis = 1 a (functional) disorder of the nervous system for which no actual lesion is found, 2 (*hist*) the specific and normal activity of the nervous system [Current psychiatric usage tends to confine the term (1) to psychogenic disorders, and to employ **psychosis** for disorders in which some physical or chemical cause is discoverable Some authorities substitute **psychoneurosis** or **neuropsychosis** for **neurosis** Psychoanalysts attribute **neurosis** (1) to a conflict between the ego and the id Etymologically, the suffix **-osis** denotes disease, but **neurosis** and **psychosis** were formerly used (as in sense 2) to designate normal phenomena] **neurotic**[a,np] — Fr *névrose*, Ger *Nervenkrankheit*

neurosis/actual = (*psychoan*) a neurosis of physical origin where the individual symptoms cannot be further reduced or explained by psychological analysis [E g **neurasthenia, anxiety neurosis**]

neurosis/narcissistic = (*psychoan*) a neurosis in which the ego is far more deeply involved than the libido, or in which the libido regresses to much earlier stages of pregenital development than those found in the transference neuroses [E g schizophrenia, paranoid states, stammering] — Fr *névrose narcissique*

neurosis/transference = (*psychoan*) a neurosis in which the chief symptoms proceed from abnormal substitutions or satisfactions of the libido [As a rule, the easiest type to treat psychoanalytically, e g anxiety hysteria, conversion hysteria, and the obsessional neuroses] — Fr *névrose de transfert*

neurotendinous spindle, see **tendon spindle**

neuroterminal = pert to the nervous system together with its receptor and effector attachments

neurotic[n] = an individual constitutionally affected with a minor nervous disorder [The term **psychopathic** probably comes closer to the facts Cf **neurosis**] **neurotic**[a] — Fr *névrosique*

neurotic character = 1 (*indiv psychol*) a combination of traits resulting from an attempt at compensation for organ inferiority or from a striving for complete masculinity (Adler), 2 (*psychoan*) an exaggerated character trait which lies midway between health and neurosis

neurypnology, neurhypnology = (*hist*) the study and art of hypnosis (James Braid, 1843)

neutral = characterizing an intermediate or zero region between two connected series, one of which is treated as positive, the other as negative [E g neutral temperature, neutral gray]

neutron = a hypothetical physical unit proposed as the genetic antecedent of the electron-proton complex and assumed by some to be an undifferentiated unit

nevi^{pl}, **naevi**^{pl} = permanent reddish patches of the skin, present at birth, which occur in certain individuals [A species of **birth-mark**] **nevus**^{sing}

Newton's law of color mixture = the principle that if two color mixtures arouse the same sensation of light or color, then a mixture of these mixtures will also arouse that sensation

nexus = the mutual dependence or interrelation of the elements in a series [Applied usually to the relation between antecedents and consequents, e g causal nexus Lat]

Nicol prism = a crystal calcite (calc-spar, Iceland spar) especially cut so as to polarize completely the light passing through it [The distinguishing feature is the fact that it is cut obliquely to the intended optical axis and recemented with Canada balsam, the ordinary ray, which obeys the ordinary laws of refraction, is reflected out of the optical path at this film of balsam and lost, the extraordinary ray, which does not obey the ordinary laws of refraction, passes through the prism, since both rays are completely polarized in planes perpendicular to each other, the emergent ray is completely polarized Cf **polariscope**]

nicotin = the alkaloid of Nicotiana tabacum, a clear, colorless, volatile liquid, strongly alkaline in reaction [It acts chiefly on the central nervous system, the sympathetic ganglia, and the myoneural junctions, first stimulating and then paralyzing them]

nictitating reflex = a closing of the nictitating membrane of the eyelid caused by contact with cornea or conjunctiva [Syn **bulbar retraction reflex**]

nidus (or **nidulus**) = a nucleus or group of cell bodies from which a nerve, or tract, originates, or which is the seat of some pathological process

night-blindness = an imperfection of vision, congenital or acquired, which involves diminished powers of dark-adaptation, absence of the Purkinje phenomenon, and blue-weakness [Syn **hemeralopia**, this term and **nyctalopia** are confused by usage and had best be avoided Contr w **day-blindness**] — Fr *cecite nocturne, c crepusculaire*, Ger *Nachtblindheit, Huhnerblindheit*

night terrors = disturbing dreams from which the sleeper commonly awakes in a terror — Fr *terreurs nocturnes*

nightmare = a dream in which the affect, or emotional toning, is intense anxiety — Fr *cauchemar*, Ger *Alpdrucken*

night-walker = syn for **somnambulist**

nigra/substantia = a pigmented layer of gray substance which separates the dorsal and ventral portions of the cerebral peduncle, containing many nerve cells, and extending from the upper surface of the pons to the subthalamic region

nihil est in intellectu quod non prius fuerit in sensu = 'there is naught in the intellect which was not first in the senses" [Lat The watchword of historic sensationism Leibnitz added **nisi intellectus ipse** (except the intellect itself)]

nihil ex nihilo fit = "nothing arises out of nothing" [Lat A scholastic statement, in negative form, of the principle of universal causation]

nirvana principle (Low) = syn for **death instinct**

Nissl corpuscles (or **bodies**) = certain large granules observed in the dendrites and cell-body of the neuron when specially treated with the methylene or toluidin blue stain [Syn **tigroid bodies**]

nisus = 1 the tendency of any active organism to strive against obstacles, 2 conscious effort or endeavor [Used by Leibnitz in a technical sense, nearly corresponding to the recent term **drive** Used by Lloyd Morgan as the equivalent of **biological striving** = akin to **conation**]

nociceptive reflex = a defense reflex evoked by a nocuous or painful stimulus [E g in a spinal animal the brisk reflex flexion of the limb when its skin is pinched or pricked]

nociceptor = a receptor or sense organ whose stimuli are harmful to the body [The resulting sensations are always unpleasant]

nocive = injurious or harmful to the organism

noctambulism = a term occasionally used for **somnambulism** [Inaccurate, since the condition has no necessary relation to time of day]

nocturnal enuresis, see **enuresis**

nodal point = the point in the eye through which all lines pass which join points in the visual field with their respective retinal images [There are two nodal points located in the axis of any optical system, each line is conceived as leaving the second nodal point parallel to its course in reaching the first In the human eye the two are close together and are about 7 2 mm back of the surface of the cornea] — Ger *Knotenpunkt*

node = a point in any wave system at which the wave has zero amplitude [Contr w **crest**, or **antinode**, the point of maximum amplitude] — Fr *noeud*, Ger *Schwingungsknoten*

noegenesis = noesis with generation of new items (Spearman)

noesis = 1 the operation of the intellect alone, 2 the manifestations of the three basic processes of cognition, esp as regards their property of being self-evident (Spearman)

noetic = 1 pert to cognition or to the intellect, 2 syn for **self-evident** [Used with various shades of meaning by different writers, including the notion of direct, non-sensory apprehension or intuition, **noetic consciousness** = experiences which are chiefly cognitive, contr w **anoetic consciousness**. Cf **cognitive faculty**]

noise = an auditory experience dependent upon aperiodic sound-waves [**noise** and **tone** are generally contrasted, but there is a continuous gradation from the purest tone to the purest noise] — Fr *bruit*, Ger *Gerausch*

nolition = the will or decision not to do a given act [A rare term, contr w **volition**]

nomadism = a propensity to wander from place to place [A normal trait in certain individuals and social groups, found pathologically in certain cases of mental disorder] **nomadic**^{a}, **nomad**$^{n p}$

nomenclature = the systematic naming of data, etc in a given branch of investigation, or the resulting system of names [Cf **terminology**] (Accent no-)

nominal^{a} = applied to distinctions based solely

upon the verbal characterization of objects or items, not upon their phenomenal or factual differences **nominally**[a]

nominal aphasia, see **aphasia**

nomograph (or **nomogram**) = 1 (*math*) a graphic representation of mathematical relationships, 2 (*statist*) a chart consisting of three (or more) scales, ordinarily parallel straight lines, which represent values of related variables, given the values of two of these variables, one can determine, by means of a supplementary straight edge, the value of the third related variable (e g given *r* and *N* one can determine the PEr) from the chart

nomology = the division of science, or of any particular branch, which investigates general principles and formulates laws [Distg fr **classification,** and from **explanatory theory**] **nomologic(al)**[a] — Ger *Gesetzeskunde*

nomothetic = pert to the study of general principles and laws [Contr w **idiographic**]

non compos mentis = not of sound mind [Lat A phrase characterizing an individual legally recognized as incompetent to manage or dispose of property]

non sequitur = "it does not follow" [Lat Used as a noun to designate attempts at reasoning in which the conclusion seems to follow from the premises, but does not actually do so]

non-conscious = without consciousness [Best confined to lifeless beings or substances, using **unconscious** to denote conditions in living beings]

non-contradiction/law of = a canon of logic, or rational thinking, which states that if a certain proposition is true its exact opposite or contrary or contradictory is false [E g if "sponges are animals" be true, then "sponges are not animals" is false Syn **law of contradiction**]

non-critical, see **critical**

non-ego = everything or anything which is not the subjective self [Contr w **ego,** the self, a broader term than **alter,** the other, which is limited to other human beings] — Fr *non-moi,* Ger *Nicht-Ich*

nonius, see **vernier**

non-language test, see **non-verbal test**

non-moral = outside the province of morality, i e not capable of being characterized as either right or wrong, as moral or immoral [E g non-moral behavior, distg fr **immoral** = (conduct) belonging within the sphere of ethics but contravening its canons Syn **amoral**]

non-polarizable electrode, see **electrode.**

non-rational = outside the province of reason, i e not characterized by reason [E g non-rational behavior, distg fr **irrational** = lying inside the province of reason but violating its canons]

nonsense[n] = a series of words or symbols which convey absurd meanings or no meaning whatever **nonsense**[a] (applied also to single words or syllables) — Ger *Unsinn*

nonsense syllable = an artificially constructed combination of letters (commonly of three letters), which can be readily pronounced but which does not represent a meaningful word [Series of nonsense syllables are used in investigations on memorization Devised by Ebbinghaus (1885)] — Fr *syllabe privee de sens*, Ger *sinnlose Silbe*

non-sensory = lacking sensory elements [E g **non-sensory experience** = any component of experience which has no sensory aspect, **non-sensory recall** = recall of facts observed in an experience without recall of the sensory qualities of the experience Not to be confused with **nonsense** = without meaning (a different use of the term sense)] — Fr *asensoriel*

non-social = 1 not possessing social characteristics, 2 not falling within the sphere of sociology [E g (1) non-social animals, (2) non-social stimuli Distg fr **unsocial, unsociable,** not entering readily into social relations, and fr **anti-social,** actively opposing social relations Cf **social**] — Fr *asocial*

non-specific response (or **reaction**) = a response which may be attributed equally well to any one of several stimuli [In association-response experiments, applied to verbal responses which have no obvious association with the given stimulus word]

non-suggestibility = (*hypn*) a state of being non-responsive either positively or negatively to suggestions, while at the same time normally perceiving the stimulations **non-suggestible**[a]

non-verbal test = a type of mental (generally intelligence) test, in which no words are used in the test content, but the directions for giving the tests may be either verbal or by pantomime

non-voluntary = lying outside the sphere of voluntary activity, i e neither voluntary nor involuntary [Distg fr **involuntary**]

norm = 1 a pattern, standard, or representative value for a group or type, 2 the mean, median, or modal score (or group of scores) of the subjects employed in standardizing a given test or measure [(1) used loosely to designate the usual or typical in any class of data, where precise mathematical formulation is lacking, in ethics, the term denotes a canon or principle of conduct which serves as pattern] **normal**[a] = representing or copying the norm, **normative**[a] = pert to the norm

norm/occupational = a frequency distribution of scores of achievement in a test, or group of tests, made by workers in a particular occupation and used as a standard of reference in interpreting scores made by candidates for employment in that occupation

normal = 1 representing or copying a norm, type, or standard, 2 (*statist*) pert to the form of the normal distribution [Distg fr **abnormal,** markedly different from type] **normality**[n]

normal curve of distribution = the curve which represents the frequency of occurrence of data for each successive value of a variable, when these variations arise from (or behave as though they arose from) the operation of a large number of independent random causes [The normal curve is bell-shaped Syn **normal frequency distribution, normal probability distribution, Gaussian curve**]

normal stimulus = a stimulus used as standard in a series of experiments, and compared with other stimuli called comparative stimuli [Syn **standard stimulus** (prefd)] — Ger *Normalreiz*

normality = the characteristic of being a representative value or pattern for the members of a given class of data [Distg fr **abnormality** = the condition of being markedly different from the norm]

normative sciences = those branches which attempt to establish norms or correct patterns for

conduct [They include logic, ethics, esthetics, etc Contr w **empirical sciences,** which investigate facts]

normosplanchnic = characterizing a physique in which trunk and limbs show average or normal development, i e an average morphological index

nose = the structure which serves as the peripheral organ of respiration and which contains the receptors of olfaction [It comprises the **exterior nose,** the **nasal cavities,** and the **paranasal sinuses,** it is divided in the median plane by a partition-wall, the **septum**] **nasal**ᵃ. — Fr *nez*, Ger *Nase*

nosogenesis = (*psychoan*) the classification of a neurosis according to the circumstances and character of its onset

nosophobia = morbid fear of some specific disease [Cf **pathophobia**]

nostrils = the apertures through which the breathing-current enters and leaves the nose [Applied either (*a*) to both the external and the internal openings (syn **nares**), or (*b*) to the external opening alone not syn w **nasal cavity,** which denotes the internal chambers of the nose] — Fr *narines*, Ger *Nasenlöcher*

note = 1 (*mus*) the written or printed symbol for a musical tone, 2 (*pop*) a musical tone

note-blindness = a rare variety of alexia, characterized by inability to read musical notes

noticeᵛ = to perceive with sufficient attention to enable the observer to give a report afterwards — Fr *remarquer, observer*, Ger *bemerken*

noticeable = 1 characterizing a stimulus or situation which is sufficiently intense to give rise to a sensation that can be reported upon, 2 characterizing a sensation or other experience that can be reported introspectively [The term **just noticeable difference** applies to experiences of difference in (2)] — Fr *perceptible, notable*, Ger *merklich*

notion = 1 a concept or other symbolic idea, 2 (*hist*) a form of knowledge which is not idea but rather immediate acquaintance (Berkeley)

notochord = a rod of specialized supporting tissue found in primitive vertebrates and in all vertebrate embryos, it is permanent in the former and forms the embryonic basis of the central part of the axial skeleton in the latter [The **notochord** constitutes one of the most fundamental characteristics of vertebrate animals] — Fr *notochorde, corde dorsale*, Ger *Rückenstrang*

nous = (*hist*) syn for **intellect** [Specially used as antithesis of **sense**, a Greek term in use from earliest times (Homer) and consistently used as the special name for the highest faculty transmitted by Arabs (*nafs*) and in modern times used occasionally to revive historical relations Root term of **noumenon, noetic**]

novel impression = an impression which has never before been presented to the given individual or has not formed associations, and accordingly must initiate its own associations [Treated as a factor in determining *attention*, and thus indirectly a factor in *recall*] — Fr *impression neuve*, Ger *neuer Eindruck*

novice = a person with practically no training or experience in a particular trade or profession [Distg fr **apprentice, journeyman, expert**] — Ger *Anfänger*

nuchal = pert to or located on the back of the neck (Pron **new'-kal**)

nuclear complex = (*psychoan*) the child's earliest impulses, alike tender and hostile, toward various members of the family, after its curiosity has been awakened, which form the content of a later neurosis, e g Edipus complex — Ger *Kernkomplex*

nuclear layer/inner = the 6th layer in the retina of the human eye from the outside [Syn **layer of bipolar cells** See Table XI]

nuclear layer/outer = the 4th layer in the retina of the human eye from the outside [See Table XI]

nucleolus = a small body within the nucleus of the cell, usually spherical in form (Accent **-kle-**)

nucleoplasm, see **karyoplasm**

nucleus = 1 a core of specialized substance situate within every cell and rather sharply demarcated from the remainder (the *cytoplasm*), which is essential to the continuance of the cell as a living organism, 2 a cluster of cells within the cerebral nervous system **nuclear**ᵃ — Fr *noyau*, Ger *Kern*

Nuel's space = a space within the organ of Corti, situate between the arch of Corti and the outer hair cells in the internal ear

nulliplex inheritance = inheritance determined by two recessive factors — Fr *hérédité nulliplexe*

number = 1 any member of a series representing the scale of values of discrete data of any sort, 2 syn for **numeral** [Distg (1) fr **quantity** = position on a scale of continuous or non-discrete data] **numeric(al)**ᵃ — Ger *Nummer*

number completion test = a test in which the task is to complete or supply the omissions in a series of numbers arranged according to some plan or pattern, e g 1, 2, 4, 8, 16, —, — [E g Test 6 in Army Alpha Syn **number sequence test, number series test**] — Fr *test de séquences de chiffres, t de complètement de chiffres*

number concept = the mental representation of abstract number, i e of a serial scale of discrete values

number form = an ideational configuration of the number-series represented in some spatially arranged scheme [Cf **synesthesia**] — Fr *schème (diagramme) numérique*

numerology = (*psych res*) a system of reading character and telling fortunes by assigning numbers to each letter in names or other words, adding together these numbers or the numerals in dates, etc , and attaching a mystical significance to the numerical results so obtained [A recent form of **sciosophy,** said to have come down from Pythagoras]

nutriment = substances taken into the body of an organism and transformed into living tissues [Cf **nutrition**] **nutritive**ᵃ — Fr *aliment*, Ger *Nahrungsstoff*

nutrition = the processes by which substances are taken into the body of an organism and transformed into tissue [Sometimes used as syn for **nutriment** = that which nourishes] **nutritional**ᵃ — Ger *Ernährung*

nyctalopia = 1 (*etymologically*) night-blindness, 2 (commonly) day-blindness [Contr w **hemeralopia** Both terms have been used in two opposite senses, to avoid confusion their use should be avoided Cf the distinctive syns **day-blindness, nightblindness**]

nyctophobia = morbid fear of darkness, or of night

nymphomania = an exaggerated degree of sexual desire in the human female [Frequently (not always) a symptom of mental disorder Syn **andromania** Contr w **satyriasis** = in the male Cf **erotomania**]

nystagmic response, see **nystagmus.**

nystagmic time = the interval from the beginning of a nystagmic response until this ceases to be observable [Cf **nystagmus**]

nystagmus = involuntary movements of the eyes [illegible] te slow and quick [illegible] rapid oscillatory movements [occurs frequently in the totally color-blind and in albinos, in normal individuals it is due to specific stimulations or conditions The following types are distinguished **caloric nyst**, produced by irrigation of the ear with warm or cold liquid, **galvanic nyst**, produced by passage of electric current through labyrinthine region of head, **miners' nyst**, involuntary oscillatory movements of the eyes due to long-continued vision in relative darkness, **optic (or railroad) nyst**, alternate slow and quick movements, each slow phase being the fixation of a moving object, and each quick phase the refixation of a new oncoming object, **post-rotation nyst**, or **after-nyst**, the continuation of alternate slow and quick phases after cessation (or slowing down) of rotation of the head, **pathological nyst**, rapid oscillatory or alternate slow and quick phases due to vestibular, cerebellar, or intra-cranial involvements, **vestibular nyst**, reflex alternate drifting and quick compensatory movements due to stimulation of labyrinthine end organs by positive or negative acceleration of the head in rotation] **nystagmic**[a]

O

O = abbrev for **observer** [Prefd italics without period, plural *O*s, possessive *O*'s, *O*s']

o factor, oscillation factor = a general factor in cognition, pert to fluctuations of mental efficiency [Cf **general factor, g factor, c factor,** etc]

obedience = social behavior characterized by conformity on the part of the individual to commands, general rules, or suggestions given by another or prescribed by tradition or by the community [The term generally implies that the individual who gives the commands, etc occupies a position of superiority (as parent, guardian, official superior, etc) or exercises domination over the other] — Fr *obéissance*, Ger *Gehorsam*

object = 1 any group of material data, considered as a unit, 2 that portion of the environment which is related to the individual in a psychological experience, 3 whatever is present to the mind in a cognitive experience [Cf **subject**] **objective**[a] = pert to **object, objectivity**[n] — Ger *Objekt, Gegenstand*

object attitude = the attitude in which the observer regards the stimulus as an object or gives attention to the stimulus rather than the experience [Syn **stimulus attitude**, contr w **process attitude**]

object-blindness = a type of mental disorder in which the individual, though able to see, is unable to apprehend present visual experiences as objects — Fr *cécité psychique*

object-cathexis = (*psychoan*) a diversion of the love or sexual instinct from its primary sexual aim — Fr *investissement objectal*, Ger *Objektbesetzung*

object-choice = (*psychoan*) selection of a love-object to produce gratification, determined by pregenital fixations [It may be either **narcissistic** (taking oneself, or someone resembling oneself, as a model), or **anaclitic** (taking one's earliest love attachments or dependents as a model, e g mother or nurse)] — Fr *choix objectal*, Ger *Objektwahl*

object of consciousness, object-consciousness = that of which the individual is aware, i e that part of the environment or of intra-organic conditions to which a given momentary experience refers [Cf **subject of consciousness, content of consciousness**]

object-odor, object-smell = a term applied by Henning to the olfactory perception of a substance whose nature the observer knows [Proposed syn **memory-odor**, cf **memory color** Contr w **perception odor** (*Gegebenheitsgeruch*) = the pure olfactory perception of the scent itself] — Ger *Gegenstandsgeruch*

objective[a] = 1 syn for **physical**, 2 admitting of record by physical instruments, 3 open to verification by any investigator, 4 localized in psychological space outside the observer's body (e g most visual data, as contr w feelings), 5 not dependent on the special bias or judgment of the individual observer (e g objective tests and scoring methods), 6 pert to an object [In psychol the term **objective data** and other phrases are used by different writers in senses (2), (3), (4), (5), often without precise discrimination Contr w **subjective data**, etc Cf **subjective**] — Ger *gegenständlich*

objective[n] = that towards which a purposive act is directed

objective idealism, see **idealism.**

objective psychology = that division of psychology which is concerned with a study of the behavior of organisms, to the exclusion of introspective data [A term used, esp in Russia, prior to the inception of behavior psychology It has a broader connotation than **behaviorism** as regards schools of thought, and in strictest sense it is more inclusive as to subject-matter since it includes both behavior and physiological data Contr w **subjective psychology** Distg fr **behaviorism** which rejects both consciousness and introspection]

objective score = the score upon a test the grading (or marking) of which is arrived at according to a key, or is otherwise so clearly defined that the subjective judgment of the scorer does not enter in — Fr *notation objective*

objective trait = a trait which may be measured through actual performance, or which is manifest in overt behavior, e g neatness, suggestibility [Contr w **subjective trait**]

obligation = 1 an act or course of conduct by one individual toward another, or toward others, which is regarded as a just equivalent for services rendered to him and as being more or less compulsory, 2 a feeling or experience, on the part of an individual, of compulsion to act in a certain manner toward society or toward some given individual [The compulsory character is measured by the individual's ability to perform the act, etc , distg fr **duty**, which assumes such ability] **obligatory**[a] — Ger *Verpflichtung*

oblige[1] = 1 to compel by suggestion, 2 (*pop*) to perform some action in order to please another individual

oblique muscles = a pair of muscles, the inferior and superior oblique, which are attached to each eyeball, and participate in the various movements of the eyeball [Distg fr **rectus muscles** Cf **eye-muscles**]

oblique reflex = 1 contraction of the obliquus externus muscle on irritation of skin below the inguinal ligament, 2 syn for **cremasteric reflex** in the male [Mediated by 1st and 2d lumbar nerves]

obliviscence = 1 syn for **forgetfulness**, 2 the tendency of ideas to disappear, as contr w **reminiscence**, the tendency to become more firmly fixed with time

oblongata, abbrev for **medulla oblongata**

obscenity = gestures or spoken language which violate the social conventions of fitness in respect to sexual or other bodily functions **obscene**[a]

obscurantism = opposition to enlightenment, investigation, and culture in general, esp to the advancement of science and knowledge [The term arose in the 16th century in connection with a satirical criticism of the conduct of the clergy in their opposition to humanism] (Accent -**skew**-) **obscurantic**[a], **obscurantist**[np].

obscure, obscurity, see **clearness**

observation = 1 the attentive (analytical) examination of phenomena or events as part of the process of scientific investigation, 2 such examination when the conditions are not prescribed by the investigator [(2) is shorthand for **ordinary** or **natural observation**, contr w **experimental observation** The term is used also non-technically to signify the act of perceiving, and to characterize a casual remark] **observe**[v] — Ger *Beobachtung*

observation/mental, see **introspective method**

observation of self, see **self-observation, introspective method** — Fr *observation de soi*, Ger *Selbstbeobachtung*

observational errors, see **errors of observation**

observer = in a psychophysical or introspective experiment, the individual who reports a description of his conscious experience [Distg fr **subject**, a broader (but ambig) term, including also one who participates in an experiment merely by responsive activity without later reporting upon it Contr w **experimenter** who conducts the investigation The terms are often abbrev to **O**, **S**, and **E**] — Ger *Versuchsperson* (*Vp*)

obsession = 1 the presence, pathologically, in an individual of a persistent and irresistible idea or emotion or urge, 2 (*hist*) the presence in an individual of an evil spirit who controls his actions, 3 (*psych res*) the possession or control of a person by an intruding personality believed to be organized from dissociated elements of his own personality but often assumed to be a discarnate personality or other spirit [Syn (2) **possession**] **obsessed**[a], **to be obsessed**[v] — Ger *Besessenheit*

obsessional neurosis = a psychoneurosis characterized by obsessive ideas, doubts, and compulsive ceremonials of a complicated sort [According to psychoanalysis, the symptoms and character traits result from an unconscious regression to the early anal-sadistic organization Syn **compulsion neurosis**] — Fr *névrose d'obsession, névrose de compulsion*, Ger *Zwangsneurose*

obsessional type = (*psychoan*) a psychological type which is governed by anxiety of conscience instead of by the dread of losing love (Freud)

obsessive doubt, see **psychasthenia**

obstruction = (*beh*) anything which hinders the completion of a response

Occam's razor, see **economy/principle of**

occasion[n] = a specific situation in a specific temporal setting **occasional**[a] (more generally used as syn for **infrequent**). — Ger *Gelegenheit*

occasion[v] = to initiate, permit, or facilitate the production of an effect by a cause

occasional cause = an antecedent of a given event which is regarded as not directly related to the event

occasionalism = (*metaph*) the view, propounded by Geulincx and Malebranche, that the concomitance between conscious and bodily processes is due to intervention of the Deity, who determines that a specific conscious process shall occur on the occasion or occurrence of a specific bodily process, and vice-versa

occipital = pert to or located in the back of the head [Contr w **frontal**] (Pron **ok-sip-**)

occipital lobe = that part of either cerebral hemisphere situate (in man) in the occiput or dorsal portion of the cerebrum and separated from the parietal lobe by the parieto-occipital fissure and from the temporal lobe by a conventional extension of that fissure — Ger *Hinterhauptslappen*

occiput = the back part of the head, represented by the os occipitale (Accent **ox-**) **occipital**[a] — Ger *Hinterhaupt*

occultism = 1 (*hist*) the theory that insight into and control over nature is to be obtained by mysterious magical procedures and by long apprenticeship in secret lore (e g alchemy, astrology, theosophy, chiromancy, etc), 2 (*pop*) belief in mysterious or supernatural causes of physical phenomena [Syn (2) **mysticism 2**] **occult**[a] = characterizing these procedures (1) or causes (2) (Accent -**cult**-) **occultist**[np]

occupational hierarchy = the serial arrangement of occupational groups according to average intelligence, from unskilled labor up through the skilled trades and clerical occupations, business, and the professions — Fr *hiérarchie professionnelle*

occupational level = the status or position of a person on a scale of occupations or vocations

occupational therapy = treatment of mental and to some extent of physical disorders by occupational work, undertaken because of its remedial value [E g shop work designed to exercise some defective muscle, simple weaving operations to arouse interest in creating something]

ocellus = a small, simple eye, found chiefly in insects, in addition to compound eyes **ocelli**[pl]

octave = (*mus*) a pitch interval between two tones, one of which is produced by waves of twice the vibration rate of the other [So called because the latter forms the eighth tone in the musical scale when the former is the first or tonic The higher pitched tone is called the **octave** of the deeper Cf Table VII]

octave quality, see **tonality**.

ocular = pert to the eye [Syn **ophthalmic** Cf optic]

ocular measurement = the measurement of visual space perception and visual space discrimination

oculocardiac reflex = slowing of heart-beat, produced by pressing firmly on the ball of one or both eyes [Mediated by V (sensory) and X (motor) cranial nerves Usually absent in locomotor ataxia]

oculomotor nerve = the III cranial nerve, which innervates all the extrinsic muscles of the eye except the external rectus and the superior oblique, and also sends fibers to the sphincter pupillae and the ciliary muscles within the eyeball

od, odic (or **odylic**) **force** = (*hist*) an undefined but peculiar energy assumed to be manifested to a sensitive person by emanations from all matter (Reichenbach) [These emanations are felt as heat and cold, and seen as luminous vapors and flames, often in colors Syn **Reichenbach phenomenon** The hyperesthetic perception is now attributed to an illusion of sensory automatism induced by auto-suggestion]

odor, odour = 1 a type of sensation due to the chemical stimulation of certain receptors which are embedded in two small brownish patches of mucous membrane, situate one in the roof of each nasal cavity, 2 a substance whose emanations stimulate these receptors [Syn **smell, scent** (prefd for 2) Zwaardemaker gives nine classes of odor ethereal (atherisch), aromatic (aromatisch), fragrant (balsamisch), ambrosiac (Amber-Moschusgeruche), alliaceous (Allyl-Cacodylgeruche), empyreumatic (empyreumatisch), hircine (Kaprylgeruche), virulent (widerlich), and nauseous (ekelhaft) The first class he adopted from Lorry, the sixth from Haller, the rest from Linnaeus Henning gives six classes fruity (fruchtig), flowery (blumig), spicy (wurzig), resinous (harzig), smoky or burnt (brenzlich), and foul or putrid (faulig) Cf **olfaction, odor prism**] **smell**^{v}, **odorous**^{a} — Fr *odeur*, Ger *Geruch*

odor prism = a figure devised by Henning to show in schematic fashion the mutual relations of his six classes of odors and of the transitional odors between them [Cf **odor**]

Oedipus complex, see **Edipus complex.**

oesophagus, see **esophagus**

oestrum, see **estrum**

offense, offence = 1 a type of behavior by which the organism endeavors to injure some enemy, 2 an act which contravenes some legal enactment or which is otherwise subject to social disapproval [Contr (1) w **defense**, which tends to protect from injury] **offensive**^{a} (in both senses)

ogival (or **ogive**) **curve** = 1 an S-shaped or sigmoid curve with a point of inflexion in the middle and the slope positive (or negative) throughout its length, 2 (*esth*) the diagonal rib of a Gothic vault [If the cumulative frequencies of a unimodal distribution are plotted with the axes representing "score," and "percent falling short of designated score," an ogive curve (1) results]

ohm = the unit of electrical resistance [The international ohm is defined as the resistance at 0° C of a mercury column of uniform cross-section, whose length is 106 3 cm and whose mass is 14 4521 grams]

Ohm's law = 1 (*aud*) the principle that a complex sound is analyzed by the ear into a series of simple tones whose frequencies correspond to the members of the Fourier series, 2 (*phys*) the current which flows in a non-reactive electric circuit is directly proportional to the electromotive force and inversely proportional to the resistance in the circuit [Cf (1) **harmonic analyzer, Fourier's law**]

ohmic resistance = the measured resistance, expressed in ohms, of any substance (e g the human body) to the passage of an electric current [When corrected for artifacts such as polarization, the figure is called **true resistance** When not so corrected it is called **apparent resistance**]

olecranal = pert to or located on or around the point of the elbow (Accent **-lek-**)

olfactie = a unit of olfactory intensity, i e one olfactie is the strength of the threshold stimulus of a particular scent as measured by Zwaardemaker's olfactometer

olfaction = a sense whose receptors are spindle-shaped bodies (nucleated nerve fibers) lying in a small patch of brownish mucous membrane situate in the roof of the nasal cavity on both sides of the septum, and whose stimuli consist of gaseous particles given off from the surface of certain organic and inorganic substances and producing a chemical effect upon the receptors [Syn **smell**, preferably limited to the function Cf **odor, odor prism, scent**] **smell**^{v}, **olfactory**^{a} — Fr *odorat*, Ger *Geruch, Geruchsinn*

olfactometer = an instrument, devised by Zwaardemaker, for measuring the stimulus limen, difference limen, and quantitative values of olfactory stimuli, it consists essentially of a glass inhaling tube, bent up at one end for insertion into the nostril, with a larger tube (lined with odorous substance) which can be pushed in over the straight portion of the inhaling tube to any desired extent, thus exposing various amounts of odorous surface to the current of air inhaled [The amount of exposed surface is indicated on a scale marked on the inhaling tube A double olfactometer consists essentially of two inhaling and two odor tubes arranged to stimulate each nostril separately] **olfactometry**^{n}

olfactory area = the region of the cerebrum containing the secondary olfactory centers, divided into anterior, medial, intermediate, and lateral olfactory nuclei [It is the center for sensations of smell] — Fr *aire olfactive*, Ger *Riechsphare*

olfactory bulb = (*anat*) an outgrowth of the forebrain, to which it is joined by the olfactory tract [Sometimes erroneously called the **olfactory nerve** The olfactory nerves arise from the bipolar neurons in the olfactory epithelium of the nose and terminate among the cortical cells of the olfactory bulb] — Ger *Riechkolben*

olfactory cell = a spindle-shaped neuron, whose ovoid and nucleated body and distal projection are embedded in the olfactory mucous membrane, and whose axon forms part of the olfactory nerve [The distal extension is bristle-like and at the external surface of the membrane swells slightly and bears cilia, which extend into the covering of mucous and upon which the olfactory stimulus probably acts] — Fr *glomérule (bâtonnet) olfactif*

olfactory lobe = the region directly beneath the frontal lobe, including the olfactory bulb, tract,

and trigone the parolfactory area, and the anterior perforated substance — Ger *Riechlappen*

olfactory nerve, olfactory fila = the 1st cranial nerve, a group of nerve fila connecting the olfactory surfaces in the nose which serve as receptors for smell, with the gyrus fornicatus

olfactory receptor = 1 the olfactory mucous membrane, a brownish patch of membrane situate at the top of each nasal cavity, about 500 mm square in man, 2 (more exactly) the **olfactory cells** which are embedded in the olfactory mucous membrane

olives, olivary bodies = elevated regions on the front of the medulla, situate one on either side of the pyramids — Fr *corps olivaires*, Ger *Oliven des verlangerten Mark*

omen = (*magic*) an occurrence supposed to portend or foreshadow a future event, but not causally connected with it [Cf **augury**] — Fr *présage*, Ger *Vorzeichen*

ommatidium = one of the parts or divisions of a compound eye **ommatidia**^{pl}

omnibus test = a psychological or educational test which consists of many items or tasks of two or more different kinds (e g arithmetical problems, opposites, analogies, and vocabulary questions) presented in apparently haphazard order [If the items of each kind are arranged in order of increasing difficulty, it is called **a spiral omnibus test**, if not, and if the different types of items recur regularly, it is a **cycle omnibus test**]

omnipotence of thought = (*psychoan*) an exaggerated conviction that mere wishes are and must be followed by results or changes in the external world [An over-estimation of **psychical processes** as contr w **reality**, characteristic of obsessional neuroses, the thinking of childhood, the beliefs of primitive people, and belief in magic] — Ger *Allmacht der Gedanken*

onanism = masturbation [From the Biblical character, Onan, who, however, practised coitus interruptus and not masturbation]

oneirology, onirology = 1 the study of dreams, 2 (*hist*) divination by means of dreams [Syn (2) **oneiromancy**]

oneiromancy = divination by means of dreams **oneiromantic**^{a}

one-level attention = a conscious experience in which all the content-items are experiences at a single level or degree of clearness or attensity — Fr *attention à niveau unique*

one-way vision screen = an observation screen made of wire netting or thin cloth brightly illuminated on one side and dark on the other, permitting vision from the dark side toward the light but not vice versa [Used mainly in the observation of children and animals, it serves to conceal the observer from view] — Fr *écran pour la vision dans une seule direction*

onomatomania = obsessive preoccupation with words and names, either by persistent efforts to recall certain words, or by attaching peculiar significance to certain words

onomatopoeic (or onomatopoetic) theory of language = the theory which attributes the origin of language to the attempt to imitate certain sounds produced by natural forces, animal cries, etc [E g crack, splash, ding dong]

ontogenesis = the origin and development of the individual or of some organ or function in the individual [Contr w **phylogenesis** = racial origin and growth The term **ontogeny** usually denotes the general problem of individual development, contr w **phylogeny**, while **ontogenesis** denotes the same problem in reference to specific cases, especially of specific organs and functions] **ontogenetic**^{a}

ontogenetic psychology = the systematic study of the origin and growth of mental life and behavior in the individual [Contr w **phylogenetic psychology** = of their origin and growth in the race]

ontogeny = the origin and development of the individual [Contr w **phylogeny** Cf **ontogenesis**] (Accent -toj-) **ontogenic**^{a}.

ontology = the branch of metaphysics which investigates the ultimate nature of being [**metaphysics** is usually divided into **ontology** and **cosmology** (Paulsen), C v Wolff further included in it **natural theology** and **rational psychology**]

ontotropic = characterizing the tendency of images (esp eidetic images) to conform to nature in respect to content and coloration

oogenesis = the cytologic processes involved in the development of the ovum, or female sex-cell [Cf **gametogenesis** Contr w **spermatogenesis**]

oogonium = the primordial germ cell which gives rise to the female germ cell, i e to the ovum or egg **oogonia**^{pl}.

oosperm = a newly fertilized egg [Cf **zygote**]

open pipe, see **pipe**

operate = to act or to perform work [Properly distg fr **function**^{v}, which implies activity that forms part of a systematic process or **function**^{n} E g a muscle, nerve, or receptor *operates* in a certain manner, a muscle *functions* to produce flexion of the member, etc Similarly an **operation**^{n} = a mode of activity, distg fr a **function**^{n} = a systematic activity or a type of activity E g uttering a sentence is an *operation*, speech is a *function*] **operation**^{n}

opercula of insula = overlapping folds of the cerebral cortex which bound dorsally the anterior part of the Sylvian fissure, and cover the insula, or island of Reil **operculum**^{sing}

ophthalmia = an inflammation of the superficial tissues of the eye, esp of the conjunctiva

ophthalmic = pert to the eye [Syn **ocular** Cf **optic**]

ophthalmic reflex, see **supraorbital reflex**

ophthalmometer = (*vis*) an instrument for measuring the curvature of the front surface of the cornea in various meridians by means of the images seen reflected in it [Used to determine **astigmatism**, which is due almost wholly to inequality of the curvature of the corneal surface in different directions, the term is also sometimes used to designate certain instruments of less importance used for other measurements upon the eyeball]

ophthalmometry = 1 mensuration of the eyeball, especially the determination of the constants of its optical system, 2 the use of the **ophthalmometer**

opthalmoplegia = paralysis of the eye muscles

ophthalmoscope = a diagnostic instrument consisting essentially of a perforated mirror, which reflects a beam of light through the pupil of the eye, whereby an observer looking through the

hole in the mirror is enabled to see the retina, its blood-vessels, the nerve-head, etc **ophthalmoscopy**ⁿ, **ophthalmoscopic**ᵃ

ophthalmotrope = an apparatus for demonstrating the movements of both eyes, a series of strings, pulleys, and weights shows the action of the six eye-muscles in a model of the two eyes

opinion = 1 a conclusion or judgment based on grounds admittedly insufficient to produce certainty, 2 an individual's own account or statement (frequently a rationalization) of his attitude [Distg fr **attitude** = a fundamental tendency to act, or a particular set to respond to a given stimulus or situation, and fr **belief**, a more certain judgment or attitude, usually emotional in nature Cf **public opinion**] — Fr *opinion, avis*, Ger *Ansicht, Meinung*

opisthotonus = a condition of tetanic contracture of the dorsal muscles of the vertebral column resulting in marked ventral convexity

opium = a drug, the active principles of which are morphine, codeine, papaverine and other alkaloids, derived from the inspissated juice of the poppy, Papaver somniferum

opiumism = addiction to the use of opium

opposites test = a type of mental test in which the testee is instructed to respond with the opposite or contrary of a given stimulus word [Syn **antonym test**, often combined with a **synonym test** Cf **synonym-antonym test**]

opposition = antithesis or antagonism, of whatever sort, between two concepts, individuals, etc **oppose**ᵛ, **opposite**ᵃ — Ger *Gegensatz*

optic, optical = pert to vision or its organ, or to the science of optics

optic chiasm, see **chiasm** — Ger *Sehnervenkreuzung*

optic disk (or **disc**) = a small, low eminence on the inner surface of the retina, within the eyeball, formed by the nerve-fibers of the retina, as they collect just before emerging from the eyeball to form the optic nerve [The term refers esp to the disk-like appearance of this structure as seen by the **ophthalmoscope**, while **papilla** and **nerve-head** apply rather to the anatomical structure itself] — Fr *papille optique*, Ger *Sehnervenscheibe*

optic lobes = the superior pair of the **corpora quadrigemina**

optic nerve = the II cranial nerve, a sensory nerve, which connects the retina of the eye with the visual centers [It contains also some fibers which transmit impulses from the brain] — Ger *Sehnerv*

optic nystagmus, see **nystagmus**

optic thalamus, see **thalamus**

optic tracts = fibers which pass from the optic chiasm to the lateral geniculate body, pulvinar, and superior colliculus — Fr *voies optiques*

optical axis = 1 (*opt*) a line drawn through the centers of curvature of the refracting (and reflecting) surfaces of an optical system, 2 the direction or directions in which light may pass through a doubly refracting crystal without undergoing double refraction — Ger *Augenachse*

optical illusion = any visual perception of spatial relations (or other attributes) which views or interprets these relations differently from the physical relations among the objective stimuli that give rise to the perception — Ger *optische Tauschung*

optical pendulum = a device for presenting visual stimuli, it consists of a moving pendulum bearing a screen with a slit, which passes before a similar slit in a fixed screen behind the pendulum

optical surface = a surface at which reflection or refraction takes place, especially one designed for the purpose with accurate conformation and adequate polish, as part of an **optical system**

optical system = those parts of an optical instrument, considered in their relations one to another, which have directly to do with the refraction or reflection of light [In mathematical optics an **optical system** consists of two or more **optical surfaces**, the simplest being a single lens or prism]

optics = that branch of physics which deals with the phenomena of light, or *radiant energy*, in its broadest sense

optimism = that attitude of an individual toward the social organization or life in general, which emphasizes the good and is hopeful regarding the trend of social evolution [Contr w **pessimism**] **optimist**ⁿᵖ, **optimistic**ᵃ

optimum = the best value in a given series (generally not the maximum or minimum) for the purpose in hand [Used adjectivally, e g **optimum** (or **optimal**) **temperature** = the temperature most favorable to the life functions of a given organism] **optimal**ᵃ

optimum duration = a term used in reaction experiments to denote the most favorable duration between signal and stimulus for producing prompt response in a given situation [Both shorter and longer stimulus durations would tend to produce slower response]

optometry = 1 the science and practice of measurements upon the eye, 2 the fitting of glasses by non-medical practitioners

optrics = an unsanctioned generic term, used to designate that branch of optics which deals with the refraction and reflection of light, esp in the study of optical systems [Cf **catoptrics, dioptrics** (accepted terms)]

ora serrata = the jagged anterior border of the retina

oracle = (*hist*) 1 a prophet, sibyl, or other person who possesses the power of foreseeing the future, 2 a shrine where such persons answer inquiries respecting future events

oral = pert to the mouth or located on the region around it — Ger *mundlich*

oral cavity = the cavity of the mouth extending from the lips to the oral pharynx [Commonly treated in three parts 1 the **rima**, between the lips, 2 the **vestibule**, between lips and teeth, 3 the **oral cavity proper**]

oral character, see **character trait.**

oral erotism = (*psychoan*) the stage of pregenital libido which refers specifically to the sexual activity in nursing

oral method = a method of instruction in the education of the deaf, which makes use of speech and lip-reading as the chief means of communication among the deaf themselves and between the deaf and others

oral neurosis = (*psychoan*) a term applied to stammering as indicating more definitely its unconscious motivation from the oral libido and oral character traits, consciously manifested by the tic-like symptoms in the speech mechanism (Coriat) — Fr *névrose orale*

oral sadism = (*psychoan*) the tendency on the part of infants to suck or bite or introduce into the mouth any external object [Characteristic of the early pregenital stage Syn **cannibalistic stage**]

oral stage, oral libido = (*psychoan*) that stage of pregenital (infantile) libido development in which the sexual activity has not yet become separated from the taking of nourishment [Usually divided into the earlier oral (sucking or nursing) and the later oral (cannibalistic or biting) stages — Fr *stade oral*

orang-utan = an ape belonging to the family of simiidae and genus simia [Distg fr the **gibbon, gorilla,** and **chimpanzee**]

orbital = pert to or located in the cavities containing the eyes (Accent **or-**)

order = 1 the type of relation found among data, or assigned to them, such that the investigator may proceed from item to item according to certain regular and determinate principles or in determinate directions without omission of any item, e g temporal order, 2 (*biol*) a group in the classification of species, higher than **family** and lower than **class** [Cf (2) **genus, species**] **orderly** (1)^a — Fr (1) *suite, ordre,* (2) *ordre,* Ger (1) *Reihenfolge,* (2) *Ordnung*

order of merit/method of = a procedure used in investigating judgment (1), or **affection** (1) by presenting all the stimuli at one time, to be rated and cast into a one-dimensional order of relative preferences [One of the **methods of impression** Syn **rank order method**]

ordinate = (*math*) the vertical axis of reference in a chart or curve [Contr w the **abscissa,** the horizontal axis]

orectic, see **orexis**

orectic process = the organic events concerned in the initiation or increase of appetite or desire

orenda = in Iroquoian religion a force, a magic power believed to pervade nature and man [Cf **manitou**]

orexis = the affective and conative aspects of experience, as distg fr the cognitive **orectic**^{a}.

organ = 1 (*anat*) a structure in the body which performs some specific function or functions **organic**^{a}

organ = 2 (*mus*) a wind instrument of many pipes, operated by directing air into one or more at a time by means of keys and a system of valves, 3 (*mus*) an instrument differing from (2) in that the tones are produced by forcing air across vibrating reeds [Syn (2) **pipe organ,** (3) **reed organ**] — Fr (2) *orgue,* Ger (2) *Orgel,* (3) *Harmonium*

organ of Corti, see **Corti/organ of.**

organ (or organic) inferiority (Ger *Minderwertigkeit von Organen*), see **inferiority complex** and inferiority feeling

organelle = an organ within a cell [It constitutes part of the cell in which it is found]

organic = 1 pert to structure, 2 pert to the organism [The second use is confusing, the ambiguity can be avoided by substituting syn **organismic**]

organic deafness, see **deafness**

organic memory = any persistent alteration (with consequently altered capacity for response) of living tissue which results from a temporary process of excitation [This *capacity to learn* inherent in all living tissue is the basis of theories of the inheritance of acquired characters proposed by E Hering, S Butler, R Semon, and E Rignano Cf **mneme**]

organic psychosis = any mental disorder which is due to structural changes in the brain [Distg fr **functional psychosis** = due to functional disturbances]

organic selection = the operation of **natural selection** as supplemented by the effects of use or disuse in individuals during successive generations [The theory of **organic selection** assumes that such individual accommodations may keep alive a slight variation which of itself is of no selective value, syn **indirect selection**]

organic sensation = a sensation arising from stimulation of receptors in any one of the internal organs [Cf **organic sense**] — Ger *Organempfindung*

organic sense = the sense or senses whose receptors lie in the internal organs [Broadly speaking it includes both visceral sensitivity and kinesthetic sensitivity, i e the sensitivity of the muscles and joints More specifically the term is limited to the sensitivity of the viscera and can be used interchangeably with **visceral sense** Cf **sensitivity/visceral**] — Fr *sens interne*

organic set, see **set/organic**

organism = a highly specialized system of material substances, consisting mainly of carbon, hydrogen, oxygen, and nitrogen, integrated into a cell or system of cells, the entire complex being capable of maintaining its existence as a unitary system [**organisms** are divided into **plants** and **animals** The term is sometimes extended, by vague analogy, to other organizations, e g the social organism Cf **life**] **organismic**^{a}, **organismal**^{a} (not recommended), **organic**^{a} (ambig)

organismic, organismal = pert to an organism, or to the organism as a unitary whole [**organismic** is prefd etymologically The adjective **organic,** sometimes used, is ambiguous, it relates more properly to **organ**]

organization = 1 a structure or grouping of any sort in which there is systematic differentiation of parts and functions, e g social organization, 2 (*Gestalt*) the process by which psychophysical excitations distribute themselves so as to form more or less articulated and stable fields, (or) the product of such process [The term **organism** is properly limited to biological organization Cf **organize**] — Ger *Organisation*

organization/mental, see **mental organization**

organize = 1 to arrange the parts of an aggregate or members of a group in such a way that a working, orderly, or integrated whole results, 2 to arrange data in such manner as to show their interrelations, or to arrange them in accordance with some plan or idea [Cf **organization**] **organized**^{a}.

organogenic = attributable to a specific organ, such as the heart, or an endocrine secretion

organon = a body of principles by means of which knowledge may be acquired or produced [The classic or Aristotelian organon was purely logical, i e concerned with correct thinking and reasoning, the newer or Baconian organon attempted to bring reasoning into accord with objective reality]

organotherapy = the treatment of disorders by administration of animal organs or extracts made from them

orgasm = 1 the culmination of coitus, comprising viscero-motor and body motor components, 2 the intense sensation-complex accompanying the culmination of coitus **orgastic**^{a}

orientation = 1 the determination of the spatial relations of objects or data to one another, 2 the assumption in a cell, an organ, or an organism of a definite axial position in reference to the direction of an external stimulating agent [Syn **tropism** For orienting terms used in anatomy, see Tables XVI, XVII] **orient**^{v} — Ger *Orientierung*

orientation/illusion of = any misinterpretation of one's position with reference to space or time — Fr *renversement de l'orientation*

orientation/mental = ability of an individual to recognize his surroundings and their temporal or spatial relations to himself, or to appreciate his relations to his social environment

orientation/photic = the assumption by an organism of a definite position with reference to a light stimulus [Syn **phototropism**]

orienting response, orienting = a response to gravity, light, or other type of stimulus which involves adjustment of the creature's entire body with reference to the location of the stimulus [Syn **tropism.**]

origin = (*math*) the zero reference-point of the measures employed [In plotting curves, etc the point where the **abscissa** and **ordinate** axes intersect]

origin versus nature = a phrase used to indicate the difference between a genetic account of organisms (or any other sort of data) and a complete description of their characteristics

original^a = not derived from or patterned after anything else [Syn **primordial, primitive, fundamental**]

original^n = a model [Contr w **copy**^{n} = the reproduction from an **original**]

original nature = the sum-total of characters or traits inherited by an organism [Contr w **acquired characters**]

originality = the ability to conceive new ideas, to produce new devices or inventions or works of art or literature

oropharynx, see **pharynx**

orthocardiac reflex = dilation of the right side of the heart, which occurs when the upright position of the body is assumed

orthodox = characterizing the principles officially accepted at any given period by a community, by a religious body, or by scientists as a coherent social group, or the individuals who accept such principles [Contr w **heterodox**] **orthodoxy**^{n}

orthogenesis = the theory which assumes that the course of evolution is not random, but is in some way directed along specific lines, irrespective of the selective process *orthogenetic*^{a}, *orthogenic*^{a}

orthognathous = designating a skull which protrudes toward the vertical plane of the jaw [Contr w **prognathous**, in which the jaw protrudes beyond the forehead] (Accent **-thog-**)

orthophoria, see **imbalance/muscular**

orthoplasy = (*hist*) determinate evolution as brought about by organic selection [Distg fr **orthogenesis**, which attributes evolution to other causes]

os = a Latin term signifying both **mouth** and **bone**. **oral**^{a} = pert to the mouth, **osseous**^{a} = pert to bone

oscillation, see **o factor**

oscillator, see **audio-oscillator**

oscillograph = an instrument which produces a visual representation or record of the waveform of electrical or other oscillations [The **mechanical oscillograph** is essentially a galvanometer with a moving system of small inertia and high natural frequency, the **Duddell** type consists of a single loop of wire which is suspended under tension in a strong magnetic field, and which carries a small mirror to reflect a beam of light upon a moving photographic plate, thereby affording a record of the electrical current Cf **cathode-ray oscillograph, galvanometer, capillary electrometer**] (Accent **-sill-**) **oscillogram**^{n} = the record produced

oscillometer = an instrument for the measurement of vibratory motion, esp the angle of pitching or rolling of a ship at sea (Accent **-lom-**)

oscilloscope = 1 (*hist*) an arrangement on the principle of the **stroboscope**, which provides successive momentary illuminations of limited areas, the rate of succession being under the control of the observer, 2 a form of **oscillograph** [Used (1) in the study of rapidly moving mechanisms] (Accent **-sill-**)

osmosis = the diffusion of substances through a membrane or porous wall

osseous = pert to bone [Cf **os**]

ossicles/auditory = a chain of bones in the middle ear, which serve to communicate the movements of the tympanic membrane to the fluid of the internal ear [In man these are three in number, called **malleus** (hammer), **incus** (anvil), and **stapes** (stirrup) The handle of the malleus is attached to the tympanic membrane, while the footplate of the stapes is fused to the oval window of the vestibule The three bones form an articulated chain, fixed in the tympanic cavity by a number of ligaments Syn **ear bones**] — Fr *osselets auriculaires*, Ger *Gehörknöchelchen*

Ostwald colors = a system of pigment colors based upon the admixture of black and white pigments to a series of colored standards [Cf **Ridgway colors, Munsell colors**, generally similar in character]

other/the = the social environment [Syn **alter** Contr w **self** or **ego**] — Fr *l'autrui*

otic = pert to the ear [Cf **auditory**]

otic vesicle, see **vesicle/auditory**

otoconia, see **otoliths**

otocyst = 1 the auditory vesicle of the mammalian embryo, 2 syn for **statocyst**

otoliths = small crystals of calcium carbonate contained in the endolymph of the inner ear, which, when the head moves, impinge on the nerve endings in the utricle and saccule, thus aiding in the maintenance of equilibrium [Syn **statoliths, otoconia**^{pl}]

otology = the branch of science which treats of the ear and its disorders **otologic(al)**^{a}, **otologist (aurist)**^{np}

otosclerosis = an auditory disorder characterized by loss of sensitivity, usually gradual and progressive, caused by induration, or hardening, of the moving parts (particularly the ossicles) of the middle ear

ouija board = a device used by mediums and others as a substitute for automatic writing,

which consists of a board upon which are printed the alphabet, numerals, and the words *yes* and *no*, and a heart-shaped traveler which is involuntarily moved from letter to letter (by the hands of two persons resting upon it) so as to spell words [Combined from French and German words, oui + ja, both meaning "yes" Syn **autoscope** Cf **planchette**] — Fr *planchette d ouija*

outer = 1 beyond the organism or body, 2 towards the region surrounding the organism [Contr w **inner** Syn **external, objective**] — Fr *externe*, Ger *ausser*

outer ear, see **ear/external**

outrage[n] = a loose term, denoting an act exceedingly displeasing to the speaker and regarded as injurious and insulting [The term has a highly emotional tinge] **outrageous**[a]

ovary = the reproductive gland in the female, which functions in the production of ova and certain internal secretions [Cf **gonad**] **ovarian**[a] — Ger *Eierstock*

overblowing = the application to a wind-instrument (e g a whistle or organ-pipe) of a blast of air of such force as to produce a tone of a pitch higher than the tone normally produced by the instrument [In properly constructed instruments the frequency of a tone produced by overblowing bears a simple integral relation to the fundamental] — Fr *emploi d'une surpression*

overcompensate = to make more than the necessary amount of allowance or adjustment [E g to **overcompensate** for an extra loading of one arm in comparing weights lifted by the two hands] **overcompensation**[n] — Fr *excès de compensation*

overdetermination = (*psychoan*) an unconscious mechanism which brings about a symptom or dream element by convergence from several different directions [E g every element of the **manifest content** of a dream is said to be **overdetermined** in that it represents several **latent dream thoughts** or day instigators, or a symptom may have many meanings] — Fr *surdétermination*

overindividual = a term used by certain writers to imply the existence of social or group factors of behavior which do not rest upon purely individual mechanisms [Often implies the assumption of a **group mind**]

overlapping elements (or factors) = in mental or other types of testing, the elements (or factors) common to whatever tests are used — Fr *facteurs communs*

overlapping of groups = (*statist*) the extent to which the distributions of scores of two groups of individuals, etc fall within the same limits [Usually measured by the per cent of one group which exceeds the median of the other] — Fr *empiétement des groupes*

overlapping of responses = the initiation of a second response or aspect of a response before the first is fully completed [The principle of **overlapping** is a factor in learning and in complex responses It is based on the fact that each response sets up stimuli of different kinds (esp proprioceptive) to other acts or to continued activity, so that *a response* is not usually a discrete thing] — Fr *empiétement des réponses*

overlearning = learning in which practice has proceeded beyond the point necessary for immediate recall or immediate use with a prescribed degree of skill [**overlearning** is assumed to be necessary for superior retention during and after a period of disuse The effects of **overlearning** are functions of many other factors, and indicate diminishing returns with continued repetitions of practice, possibly due in large part to a decrease in motivation] — Fr *surapprentissage*

overproduction = 1 increase in the number of organisms in a given species to such an extent that the supply of food is insufficient for all, 2 movements made by an organism in excess of those necessary for its adequate adjustment to the (usually novel) environment [Such overproduced movements are also largely ill-adaptive Cf **trial and error theory** Syn **excess movements**] — Fr *surproduction*, Ger *Überproduktion*

overstatement, see **understatement**

overt response = any response which involves changes in muscles or glands (or both) that can be easily observed by another person [Syn **explicit response** Contr w **implicit or covert response**]

overtone = any partial in a compound tone, except the fundamental [When the frequency of an overtone is an exact multiple of the fundamental frequency, it is called a **harmonic overtone** (or **harmonic**), if not a multiple, an **inharmonic overtone** Cf **partial tone**] — Fr *ton partiel (harmonique) supérieur*, Ger *Oberton*

ovum = the female germ cell [Contr w **sperm cell** = the male cell] **ova**[pl], **ovic**[a] — Fr *œuf*, Ger *Ei*

P

P = symbol for **probability ratio**

p factor, perseveration factor = a unitarily functioning factor varying in degree from one individual to another, showing itself as a tendency for mental processes to have a certain lag or inertia, and, accordingly, to *perseverate* (Spearman) [Obverse of **c factor** Cf **c factor, inertia**]

Pacinian (or Vater-Pacinian) corpuscle = a type of large capsulated nerve end-organ located in fatty subcutaneous tissue in hairless bodily regions (e g the tactile pads) and along the course of nerves, close to the joints, and in the intestines [Believed by some writers to arouse a special articular sensation at the joints, also to arouse pressure sensations in the viscera]

paidophilia, see **pedophilia**

pain = 1 a specific sensation stimulated by powerful processes in various bodily tissues, the impulse being commonly assumed to be conveyed by a distinct set of nerves having a ready motor outlet, 2 syn for **unpleasantness** **painful**[a] — Fr *douleur, pénible*[a], Ger (1) *Schmerz*

pain sense = a special sense found in every part of the periphery and in many internal regions [Cf **free nerve endings**] — Fr *sens de la douleur*, Ger *Schmerzsinn*

pain spot = a point on the skin which is peculiarly sensitive to pain stimuli, i e which has a much lower limen for pain stimuli than the adjacent regions — Fr *point de douleur*, Ger *Schmerzpunkt*

painless cheek area, see **Kiesow's painless cheek area**

paired associates = a type of procedure in which impressions (usually words or nonsense syllables) are presented in pairs one or more times, and the testee is subsequently asked to respond with the second member of any pair when the first member is given [Employed more often to study the nature of the associative connections than to measure the efficiency of the testee Syn (**method of**) **right** (or **correct**) **associates**] — Fr *test de comparaisons par paires*, Ger *Treffermethode*

paired comparison/method of = a method used in judgment of affective preference of colors, etc, in which each member of a series is compared in pairs with every other member in respect to a given quality, the individual indicating the member he prefers in each pair till a graded scale of the entire series is obtained [This method may also be used in comparing weights, length of lines, etc One of the methods of impression, also a method of psychophysics]

pairing = arrangement of the stimulus items included in an experiment in groups of two, for purposes of comparison, association, etc, or of individuals in the making of comparable groups — Fr *accouplement*, Ger *Paarung*

palatal reflex = contraction of palatal and pharyngeal muscles, and the act of swallowing, elicited by touching the palate [Mediated by IX and X cranial nerves through their bulbar centers and the pharyngeal plexus]

palate = the roof of the mouth [It is composed of the **hard palate,** formed by the palatal processes of the superior maxillary bones and the palatal bones, and the **soft palate,** consisting of an aggregation of muscles] — Fr *palais*, Ger *Gaumen*

paleencephalon = the parts of the encephalon, or brain, that are phylogenetically the more primitive, i e, those related to the sense of smell [Syn **archencephalon** Contr w **neencephalon**]

paleontology = the branch of biology which investigates organisms that existed in the past [Distg fr **archeology,** which investigates the remains of human productivity in prehistoric times]

paleopsychology = the investigation of primitive features of mentality which persist from a previous evolutionary stage

palingenesis = the development of an individual organism, in so far as it epitomizes the separate stages in the evolution of its race or species **palingenetic**[a]

palingenetic characters = those characters in an organism which represent ancestral types

pallesthesia = sensibility to vibrations, esp in regions of bony prominences [Sometimes written **palmesthesia** Syn **bone sensibility**]

pallium = the vesicular wall of the forebrain covered by gray matter or cortex [The cerebral cortex exclusive of the olfactory areas is called **neopallium,** the olfactory areas constitute the **archipallium**]

pallor = any shading of a tissue lighter than normal, occasioned by reduction of blood supply or withdrawal of pigmentation or both [In psychology usually limited to the paling of the human face, expressive of certain emotional attitudes] — Fr *pâleur*, Ger *Blässe*

palmar = pert to or located in the palm of the hand (Accent **pal-** or **pahm-**.)

palmar reflex = flexion of fingers elicited by irritation of the palm of hand [Mediated by 8th cervical to 1st thoracic segments of the spinal cord]

palmesthesia, see **pallesthesia**

palmistry = (*hist*) an attempt (*a*) to read character by interpretation of the shape, lines, prominences, and other characteristics of the hand (**chirognomy**), or (*b*) to reveal the past and predict the future of a person from these indications (**chiromancy**) [Syn **chirosophy** Cf **chiromancy, sciosophy**]

palp, palpate = 1 to touch with the fingers or other member, 2 to receive a touch sensation [Syn for **feel** (= **touch**) which is ambig]

palpable = directly perceptible or observable — Ger *anschaulich*

palpebral = pert to or located on the eyelids (Accent **pal-**)

palpitation = excessively rapid action of the heart [Cf **tachycardia**]

panasilinic telegraph = (*hist*) a means of communication at a distance dependent upon the sympathy (rapport) of two snails, one at each station the message is read from the letters on an alphabet board over which the **percipient** snail travels in exact correspondence to the movements the **agent** snail is made to make on a similar board [A hoax perpetrated at the time of the success of the electric telegraph, still used to illustrate credulity stimulated by new scientific marvels]

pancreas = a large, pinkish internal gland which consists functionally of two parts (1) a portion which elaborates certain digestive juices, and (2) an endocrine portion, the internal secretion of which is important in the regulation of metabolism [The portion of the pancreas known as the **islands of Langerhans** is important in the second function, these produce the hormone **insulin**, whose presence in the blood is essential for the normal combustion of carbohydrate] **pancreatic**[a] — Ger *Bauchspeicheldrüse*

pangen = a hypothetical organic unit having the power of self-perpetuation and supposed to afford the organic basis of heredity (de Vries) (Pron **pan-jen**) — Fr *pangene*

pangenesis = a theory proposed by Darwin to account for heredity, which assumes that each organ and type of cell in the body throws off minute particles, or *gemmules*, which reach the generative organs and serve to reproduce cells and organs in the offspring similar to those of the parent

pangenesis/intracellular = a doctrine advanced by De Vries to explain reproduction, heredity, and other vital processes as a result of the activities of minute organic units called **pangens.**

panmixia = unrestricted intercrossing or interbreeding between members of a variety or a species [The notion of **panmixia** was employed by Weismann to explain the degeneration of organs independently of the action of natural selection]

panpsychism = the monistic theory which assumes that reality is ultimately psychic in nature [Cf **monism**]

Panum phenomenon = if two lines near together are presented to one eye and a third line to the other eye, and either of the first two is combined stereoscopically with the third, then two lines will be seen of which the line lying nearer

the median plane appears to be nearer than, or to stand in front of, the other. [Change of fixation can reverse the effect.]

papilla = (*biol.*) a small nipple-shaped elevation. (Accent -ill-.) **papillae**[pl], **papillar**[a]

papilla/acoustic = the epithelial organ of the internal ear, which bears the sensory endings and receives the terminations of the cochlear (or lagenar) branch of the acoustic nerve. [In higher vertebrates, it reaches an advanced stage of differentiation and is called the **organ of Corti**.]

papilla/lingual = a type of small projection or knob in the mucous membrane of the tongue. [There are four forms, three of which contain taste buds: (1) **circumvallate papillae**, each resembling a truncated cone and surrounded by a ring-shaped depression, few in number, situate in a V-shaped line across the back of the tongue, and richly supplied with taste buds; (2) **filiform p.**, small, thread-like, and very numerous, not containing taste buds but probably tactile in function; (3) **foliate p.**, leaf-like, situate along the edges toward the back of the tongue, and supplied with taste buds; (4) **fungiform** (or **lenticular**) **p.**, mushroom-shaped, occurring largely on the front of the tongue, esp. on the margins and apex and also supplied with taste buds.]

papilla/optic, see **optic disk**.

papillae/tactile = protuberances of tissue which occur in double rows, forming ridges in the outer surface of the corium, each protuberance, or papilla, containing a terminal capillary loop and certain touch receptors. [In man, most prominent on soles and palms.]

papillary stratum, see **corium**.

papilledema, papilloedema = a non-inflammatory swelling of the optic disk, generally due to brain tumor. [Syn. **choked disk**.]

papillitis = (*ophth.*) inflammation of the optic disk or papilla of the eye, due to pathological changes in the optic nerve.

parabiosis = 1. the partial fusion of two individuals, congenitally or by surgical operation, so that there is a mutual physiological influence; 2. temporary abolition of excitability and conductivity in a nerve. **parabiotic**[a]

paracentral gyrus = a convolution situate on the mesial surface of the cerebral hemisphere, lying above the caudal end of the sulcus cinguli and surrounding the upper (dorsal) end of the sulcus centralis.

paracentral vision = vision mediated by the zone of the retina immediately surrounding the fovea centralis.

paracusis, paracusia = an anomaly of hearing in which acuity (e.g. for conversation) is apparently increased by the presence of a noise. [It is generally agreed that the increased acuity is an illusion occurring only with persons selectively deaf to deep tones, such persons when conversing with normal individuals are relatively favored by most noises, since the normal individual speaks louder to overcome the masking effect of the noise.] **paracusic**[np]

paradox = a condition of affairs (or a statement thereof) which apparently includes some inherent incongruity. [It is usually implied that a fuller understanding shows the incongruity to be unreal.] **paradoxical**[a]

paradoxical cold = a sensation of cold whose stimulus is approximately 43° C. or over, i.e. a typical warmth stimulus.—Fr. *froid paradoxal*; Ger. *paradoxe Kälte*.

paradoxical patellar reflex = contraction of the adductor muscle but not of the quadriceps femoris complex when the patellar tendon is tapped. [Mediated by 3d lumbar segment of spinal cord.]

paradoxical pupillary reflex = dilation of the pupil upon stimulation of the retina by light. [Mediated by optic tract and oculomotor nerve.]

paradoxical warmth = a sensation of warmth whose stimulus is approximately 29°–31° C., i.e. a typical cold stimulus.—Fr. *chaleur paradoxale*; Ger. *paradoxe Wärme*.

parageusia = a distortion of a taste experience or a taste hallucination. **parageusic**[a]

paragraphia = a pathological condition in which the individual habitually inserts wrong and unintended words in what he is writing. **paragraphic**[a]

parakinesis = (*psych. res.*) levitation with contact, some or all of the power exercised being attributed to supernormal forces. [Cf. **telekinesis**.]

paralalia = impairment of the ability to utter certain speech sounds. [A form of **dyslalia**. Syn. lisping, a term often confined to the s or z sound defects.]

paralexia = a pathological condition in which the individual misreads words and phrases. **paralexic**[a].

parallax = the apparent relative shift of two unequally distant objects, observed when the point of view is shifted perpendicularly to the line of vision.

parallax/binocular = the inequality of separation, in the two eyes, of the retinal images of unequally distant objects. [It is due to the lateral difference in position of the two eyes, the more remote object appearing to the right eye relatively farther to the right in the visual field and *vice versa*; it is one of the stimulus conditions by which solidity and relative distance are mediated in binocular vision.]

parallel induction = (*biol.*) the production through the influence of the environment of the same kind of variation both in the body and in the germ cells.

parallel law = a psychophysical principle, formulated by Fechner as follows: if two stimuli of different intensity be applied to a receptor for a certain length of time, the absolute sensations aroused by the unchanged stimuli are diminished by fatigue, but the sensed ratio of difference remains unchanged.—Fr. *l. du parallélisme*.

parallel movements = movements of the two eye balls in which the lines of sight remain parallel, as in looking at distant objects, or movements in which convergence and divergence play no part.

parallelism = (*anthrop.*) the development of culture traits in similar sequences and forms independently among distant tribes. [Distg. fr. **convergence**.]

parallelism/biological = the evolution of two or more groups of organisms along similar or parallel paths.

parallelism/psychophysical = a theory of mind-body relations, according to which, for every variation in conscious processes or experiences

there is a concomitant variation in neural processes [The theory makes no assumption of a causal relation between the two The theory of **parallelism** was formulated by Spinoza, the psychophysical interpretation was made by Fechner]

paralogia = irrelevant expression of ideas by speech, due to difficulty in thinking logically [A form of **dyslogia**]

paralogism = an argument which involves some fallacy unnoticed by the proponent [Contr w **sophism** = an argument intended to mislead by a concealed fallacy] (Accent -al-) **paralogistic**^{a}

paralysis = 1 impairment or complete loss of motor function due to some disturbance of the neural or muscular mechanism, 2 impairment or destruction of sensory function (by analogy from 1) **paralyses**^{pl}, **paralyze**^{v}, **paralytic**^{a,np} Ger *Lähmung*

paralysis agitans = a disease of late life, characterized by tremor of the muscles, delay of voluntary movement, and muscular contraction, causing peculiar position of limbs and head [Syn **Parkinson's disease**]

paralytic dementia, see **paresis**

paramecium, paramoecium = a genus of holotrichous ciliate protozoans [The individuals are cigar-shaped, with an oblique oral groove]

parameter = 1 (*math*) a constant, in an equation containing two or more variables, for each value of which is given a particular curve of a system of curves, 2 (*psychol*) any of the constants in learning or mental growth curves which define the form of the curve and which ordinarily differ when experimental conditions, subjects, material, etc are changed

paramnesia = a distortion of memory or of recognition either by inclusion of false details or by wrong temporal reference [Cf **déja vu**] **paramnesic**^{a}

paranoia = a psychosis characterized by fixed and systematized delusions **paranoic**^{a}, **paranoic**^{np} (*pop* **paranoiac**^{np}) — Fr *folie lucide, paranoia*

paranoid dementia = a type of more or less systematized delusion-formation, not purely paranoic (because of evidences of **additional** disorders), such as hallucinations, and deterioration or disorganization [A branch of the dementia praecox (schizophrenic) group of psychoses Syn **délire chronique a évolution systématique** (Magnan)]

paranosic = (*psychoan*) pert to the primary gain or advantage arising from an illness [Contr w **epinosic**]

paraph = a terminal embellishment of a signature

paraphasia = a pathological condition in which the individual habitually introduces wrong words in his speech [Applied also to incidental substitutions of wrong words by normal individuals] **paraphasic**^{a}

paraphemia = the employment of wrong sounds or words in speaking, due to psychoneuroses [Syn **neurotic lisping**, a form of **dysphemia**]

paraphonia = a form of **dysphonia** characterized by morbid alterations of the voice

paraphrenia = a diagnostic term which includes both **paranoia** and **dementia praecox (schizophrenia)**

paraphysics = the theory of existence which deduces the nature of the psychical parallel of any given physical factor on the basis provided by general psychophysical laws

paraphysis, see **pineal body**

paraplegia = paralysis of the lower limbs or of the lower section of the body

parapraxis = 1 (*pathol*) a generic term for slips of the tongue and pen, forgetting, errors, faulty acts and similar mistakes, due to erroneous mental functioning, 2 a pathological condition in which the individual persistently commits errors in motor adjustments [(1) is attributed by psychoanalysts to unconscious wishes which counteract the desires in consciousness] — Ger *Fehlleistung*

parapsychology, parapsychics, see **metapsychics**.

parasite = an organism which lives more or less continuously at the expense of another organism (the host) without compensation **parasitic**^{a}, **parasitism**^{n} — Ger *Schmarotzer*

parasympathetic nervous system = the *cranial* and *sacral* parts of the autonomic system as distg fr the *thoracic* and *lumbar* portions

parataxis = maladjustment, esp of emotions and desires (T V Moore)

parathymia = (*rare*) a contrary or abnormal emotional reaction or state

parathyroid glands = four small bodies situate one on the lateral and one on the mesial surface of each lateral lobe of the thyroid gland [These bodies often occupy atypical positions An extract of the parathyroids (Collip), containing the hormone or active principle of these endocrine organs, relieves parathyroid tetany and increases the blood calcium]

parent = an organism which has produced offspring **parental**^{a}

parent-child relation = social behavior as between parent and child [Particularly applicable to personality relations] — Fr *rapport entre parent et enfant*

parental behavior = behavior concerned with the care and protection of the young [It includes both maternal and paternal behavior] — Fr *comportement parental*

paresis = 1 incomplete paralysis of a muscle or group of muscles central or peripheral in origin, 2 a brief term for the parenchymatous invasion of the cerebral cortex and brain, generally by the spirochaetes of syphilis, with grave memory and judgment defect, speech disorder, and tremor and reflex-alterations [When occurring in early years, regularly through congenital syphilitic infection, it is termed **juvenile paresis.** If symptoms of spinal cord involvement are prominent, it is spoken of as the tabetic form, or **taboparesis** Other categories (self-explanatory) are **conjugal** (in origin), and **cerebral, diffuse,** and **focal** forms Syn (hist) **general paralysis of the insane, paralytic dementia** (Accent par-) **paretic**^{a} — Fr *paralysie générale*, Ger *Lähmung*

paresis/juvenile = the parenchymatous syphilis of the brain of paresis in the child or adolescent, usually due to congenital infection

paresthesia, paraesthesia = an abnormal or wrongly localized sensation, such as pricking, burning, etc [Cf **formication**]

parietal = 1 pert to or located on the middle region of the top of the skull, between the frontal and occipital regions and extending down on each side behind the temporal regions, 2 pert to the outer wall of the body, as contr w the viscera (Accent -rye-) — Ger (1) *Scheitel-*

parietal lobe = a division of each cerebral hemisphere, bounded in man cephalad by the Rolandic fissure, caudad by the parieto-occipital fissure, and ventrad by the Sylvian fissure, the other boundaries are arbitrary [The cortex on the convex surface of this lobe forms the **parietal area**] — Ger *Scheitellappen*

parietal organ = a structure representing a third eye and arising as an outgrowth from the dorsal side of the third ventricle of the brain [Cf **pineal gland, epiphysis**]

Parisian line = a linear measure = 2 25 mm [Used by E H Weber and contemporaries]

Parkinson's disease, see **paralysis agitans**

parotid gland = a salivary gland situate in the side of the face in front and slightly below the external ear [In man the largest salivary gland] — Ger *Ohrspeicheldrüse*

paroxysm = a sudden, spasmodic onset or intensification of certain disease symptoms — Ger *krampfartiger Anfall*

Parry's disease, see **exophthalmic goiter**

parsimony/law of, see **economy/principle of.**

part = a loose term, applied to any result of division, whether actual or ideational [E g part of body, of organ, etc Contr w **whole**] **partial**^{a} (functional), **part**^{a} (structural) — Ger *Teil*

part and whole learning, see **whole and part learning.**

parthenogenesis = the development of a new organism from an unfertilized ovum

partial activity = 1 the prepotency of a part or aspect of a situation in the re-excitation of responses or the reviving of memories or images which were formerly constituents of the whole act or experience, 2 syn for **piecemeal activity** (Thorndike) [Syn (1) **focal recall,** as in association by similarity or in a conditioned reflex]

partial activity/law of, see **piecemeal activity/law of**

partial coefficient, partial correlation, see **correlation/partial,** and **correlation**

partial color-blindness = a defect of color vision, congenital or acquired, characterized by absence or loss of one or more of the primal or fundamental components [Usually two (sometimes one, or three) of the four Hering primaries, green, red, blue, and yellow, are missing, or disappear in sequence, with the progress of disease Cf **color-blindness, dichromatism**]

partial impulse = (*psychoan*) a sexual impulse which is not primary but can be subjected to further analysis (e g perversion)

partial tone, partial = any one of the simple constituents of a compound tone or simple clang [The terms **fundamental tone** and **overtones** are also used, i e first partial = fundamental tone, second partial = first overtone, etc Syn **harmonic**] — Ger *Teilton*

particular complex = (*psychoan*) an emotional experience, or complex, based upon *incidental* circumstances in the individual's life history, rather than upon some fundamental instinct [Contr w **universal complex** = based upon one of the fundamental instincts]

particulate inheritance = a term proposed by Galton for inheritance in which the offspring present a mosaic of paternal and maternal characters which do not blend

parturition = the act of giving birth to offspring

part-whole test = a type of mental test in which the stimulus word represents some part of an object, and the required response is the naming of that object, i e naming the whole of which the given stimulus word denotes a part [Distg fr **whole-part test,** in which the stimulus word is the name of the object, a part of which is to be named in the response] — Fr *test d association de partie à tout*

passion = strong, uncontrolled emotional expression [In plural, often denotes any or all emotional experience] **passionate**^{a}. — Ger *Leidenschaft*

passive = characterizing a state of rest and inactivity, or a condition in which behavior is externally rather than internally initiated and controlled [Contr w **active.**] **passiveness, passivity**^{n}

passive forgetting = the fading away of certain memories due to lack of interest or exercise [Contr w **active forgetting** = dismissal of memory data on account of unpleasant associations] — Fr *oubli passif*

passivity = 1 a state of inactivity and of submission to external force or to another's will, 2 (*relig*) the state of submissiveness and receptivity in which the soul stands before God without will of its own [The mystics regard passivity (2) as a condition of attaining union with God]

passivity feelings = (delusional) feelings of being influenced by various forces, e g religious, mystical, electrical, hypnotic [A form of dissociation or projection phenomena, especially characteristic of schizophrenic symptom-complexes] — Fr *sentiments de passivité*

past pointing = a procedure used to test the normal response to rotary movement, the subject, who has been rotated in a standard manner, normally points with his finger past the position indicated by the experimenter's finger [If the subject has been rotated to the right, there is normally an illusion of motion to the left when he is brought to a stop This he counteracts by pointing to the right of the indicated position] — Fr *pointage consécutif*, Ger *Vorbeizeigen*

pastoral stage = (*anthrop*) that form of culture in which herds of sheep, cattle, etc are maintained for livelihood [It is often assumed that this stage succeeds the **hunting stage** and precedes the **agricultural stage**] — Fr *stade pastoral*

patella = the knee-cap **patellar**^{a} (Accent **-tell-**)

patellar (or **patellar-tendon**) **reflex** = contraction of the quadriceps femoris upon tapping the patellar tendon when the leg is relaxed and flexed at the knee [Mediated by 2d to 4th lumbar segments of spinal cord Syn **knee-jerk, quadriceps extensor r**] — Fr *réflexe patellaire, r rotulien*, Ger *Kniescheibenreflex*

path, pathway = the line of conduction along which a nerve impulse proceeds through the chain of neurons which form a neural arc — Fr *voie*, Ger *Leitungsbahn, Bahn*

patheticus, see **trochlear nerve**

pathic reflex = a response elicited by artificial stimulation of a sensory nerve at some point in its course

pathogenesis = the development of disease or of morbid conditions

pathography = the study of human personality in the light of an individual's ailments

pathological lying = a tendency, present in certain types of mental disorder, to utter falsehoods or tell imaginary tales as true, even when no benefit accrues from concealing the truth — Fr *menteur constitutionnel*[n p]

pathological nystagmus, see **nystagmus**

pathology = 1 the branch of biology and medicine which investigates diseases, disorders, and abnormal conditions of the organism, 2 diseases and disorders, as distg fr normal conditions of the organism [In medical circles often restricted to organic changes as distg fr functional (i e overt behavioral) disorders or *symptoms*] **pathological**[a]

pathoneurosis = (*psychoan*) a neurosis which supervenes upon an organic illness or injury [illegible] has withdrawn from [illegible] not toward the whole ego, but chiefly to the diseased or injured organ, and evolves symptoms in this particular area (Ferenczi) — Fr *pathonévrose*

pathophobia = morbid fear of disease or of general suffering [Syn **nosophobia**]

pathos = mental suffering, as distinguished from sensory pain [Applied esp to painful situations in life or dramatic literature which appeal to the sympathy of the onlooker] **pathetic**[a]

pattern = 1 a sample or model which is to be copied or imitated, 2 (*neurol* and *psychol*) a functional integration of discriminable parts, which operates or responds as a unitary whole e g neural pattern, thought pattern, social pattern [Contr (2) w **blend or fusion** Cf **model**] — Fr (1) *modèle*, (2) *forme*, *complexus*, *schéma*, *ensemble structurel*, Ger (1) *Muster*, (2) *Anordnung*

pattern reaction = a reaction considered from the standpoint of its component parts and their relations to each other and to the whole reaction [Usually the patterning is descriptive of responsive reactions (i e behavior), but it may carry neural or physiological implications also] — Fr *complexus de réaction*

pause duration, see **fixation time.**

Pavlov's (or **Pawlow's**) **experiment** = a type of experiment devised by Pavlov, in which the saliva of a dog or other animal is diverted through an external fistula, and may be observed and measured [Used to measure the formation and strengthening of conditioned food reflexes, e g when a light or the sound of a bell, presented before the food appears, serves as a signal (i e as a conditioned, or substitute, stimulus) for feeding]

p e (or **P E**) = abbrev for **probable error**

peacock = a bluish green hue (Ladd-Franklin) [Syn **cyan**] — Fr. *bleu cyanique*

peak, see **cycle**

peccatophobia = morbid fear of sinning or of having committed (imagined) crimes

pecking experiment = an experiment in which chicks (usually recently hatched), are permitted to peck at grains of food, the observed modification of behavior being correlated with increasing age and practice — Fr *expérience du picotement des poulets*

pectoral = pert to or located in the breast, i e the front of the thorax (Accent **peck-**) — Ger *Brust-*.

pedagogical psychology, see **educational psychology**

pedagogy, **pedagogics** = the theory and art of teaching

pedal = pert to or located in the foot (Accent **ped-** or **pee-**)

pederasty = sexual intercourse with youths through the anus

pedogenesis = reproduction by animals in an immature (commonly larval) state

pedophilia, **paidophilia** = love for immature children [Generally used with pathological implications]

peduncle = a superficial band of nerve fibers in the brain [Applied to several diverse structures callosal, cerebellar, cerebral, olfactory, of corpora mammillaria, pineal peduncle] **peduncular**[a] — Fr *pédoncule*

pedunculi cerebri, see **crura cerebri** — Ger *Hirnschenkel*

Peking man = the name given to an extinct variety of man as evidenced by skeletal remains found near Peking, China [Now generally regarded as a variety of **Neanderthal man**]

pelagic = pert to organisms living near the surface of the sea, as contr w **littoral** (i e coastal) forms and with forms living on the bottom (bathic)

pellagra = a deficiency disease of the skin and intestinal tract, due to inadequate variety of nutrition and climatic exposure, often with depressive and delirious mental involvement

pelvis = the bony ring attached to the lower end of the vertebral column and supporting, in man, the abdominal organs [The upper leg bones articulate with the pelvis] **pelvic**[a].

penalty = the effect of punishment, considered in respect to the mental distress or material loss which it occasions to the individual — Fr *pénalité*, Ger *Strafe*

pendular vibration, see **pendulum**

pendule explorateur = (*psych res*) a pendular form of **autoscope** consisting of a thread and a ring or bob, in use, the bob is suspended by a thread from the hand of a free arm, its swing actuated by involuntary movement, is assumed to indicate (*a*) the object of search or answer to a question, by taps on the inner side of a glass, or (*b*) by the direction of movement, the location of subterranean water or ore, the criminal in a line of suspects, etc [Syn **magic pendulum**]

pendulum = a body suspended from a fixed point, and free to oscillate to and fro under the combined actions of gravity and momentum [Often used for time measurements or the regulation of time-keeping instruments The **seconds pendulum** (so called) is one in which the time of a half cycle (movement from one extreme position to the other) is one second, its length is approximately 39 1 inches] — Ger *Pendel*

pendulum chronoscope = an instrument for measuring response time, in which the stimulus releases a pendulum carrying a pointer controlled by an electromagnet (or mechanically), the response via the magnet checks the movement of the pointer, and the intervening time is read directly from a scale [The commonest form is the Bergstrom, in which the pointer moves with the pendulum by means of a spring, which presses it against a disk clutch, and stops through the positive action of an electromagnet]

penile (or **penis**) **reflex,** see **virile reflex**

penis envy = (*psychoan*) a repressed wish (encountered in the analysis of many neurotic women) to possess a penis [This envy forms part of the feminine **castration complex**] — Ger *Penisneid*

penitence = the attitude of an individual who acknowledges and deeply regrets some breach of the moral code or some injury which he has done to another, and who is anxious to renounce all conduct of this type in the future **penitent**[a],[n,p] — Ger *Busse*, *Reue*

penology = the scientific investigation of punishment for crime, both as a deterrent and as a means of reformation

pentatonic scale, see **scale** (2) — Fr *gamme pentatonique*

percent = (*statist*) the value of a certain part, if the whole to which it belongs is arbitrarily valued at 100 [Distg fr **proportion,** in which the whole is arbitrarily valued at unity Written also **per cent**] **percentage**[n] (abstract)

percentile = (*statist*) in a group of data arranged serially in order of magnitude, that point or value in the series below which lies the percentage of the group indicated by a specific member [E g the 10th percentile is that point, or value, below which fall 10% of the group and above which fall the remaining 90% Applied commonly to the ranking of individuals in a test **percentile score** = the percentile at which the score of a given individual in the group lies, **percentile rank** = the percentile at which the individual is rated, or scored, among the group, **percentile scale** = a set of equivalents, giving percentiles for each score, as distg fr **mental age scale,** or **point scale** Cf **quartile**] (Pron **-till** or **-tile**) **percentile**[a] — Fr *centile*

percentile curve = (*statist*) a curve whose rectangular axes are (1) score, or measure, and (2) percent falling short of, or failing to attain, the score indicated upon the other axis [Cf **ogive**]

percept = 1 the object of perception, i e the thing perceived, 2 a single perceptive act or response, i e what is known of an object in perceiving it [Cf **perception**] — Ger *Wahrnehmungsinhalt*

perception = 1 the awareness of external objects, qualities, or relations, which ensues directly upon sensory processes, as distg fr **memory** or other central processes, 2 a mental complex or integration which has sensory experiences as its core, 3 awareness of present data, whether external or intraorganic, 4 awareness or belief of the truth of a proposition [Cf **percept**] **perceive**[v], **perceptual**[a] = pert to the data, **perceptive**[a] = pert to some act of perceiving, **perceptional**[a] = pert to the study — Ger *Wahrnehmung*

perception/binocular = perception with the two eyes acting conjointly and presenting a single visual field, in which objects may stand out in relief, i e in the dimension of visual depth

perception odor, see **object-odor**

perception of difference, see **discrimination**

perception of depth, see **depth perception**

perception of space, see **space perception**

perception time = 1 the time which elapses from the presentation of an object to its recognition by the observer less (*a*) the time spent in overcoming inertia of the receptor, and (*b*) the time of transmission of the nerve impulse from receptor to brain centers, 2 (*reading*) the sum of the fixational pauses (of the eyes) which are the periods of relatively clear vision during reading — Fr *temps de perception*

perceptual, see **perception.**

percipient = (*psych res*) the person in the position of *receiver* in a telepathic situation [Contr w **agent**]

performance = 1 any mental or motor process considered as producing a certain result, 2 (*beh*) an activity which involves motor or manual rather than verbal responses [(1) applies to animal and human behavior, (2) is applied esp to **test** procedure] **perform**[v] — Fr *accomplissement*, Ger *Leistung*

performance test = a type of mental test in which the role of language is greatly diminished, the test material consisting of concrete objects (or pictures or drawings) instead of words, and the responses consisting of manipulations of these objects, though the directions are often given verbally [First devised as substitutes for the **Binet scale** when testing deaf, illiterate, or foreign-speaking persons Distg fr **non-language test,** in which the instructions are given by pantomime, i e without use of words, and no words are required in solving the test A **performance scale** = a series of performance tests in which the exercises are arranged in order of difficulty, beginning with the easiest] — Fr *test d'exécution*

pericardial = pert to or located in the region around the heart (Accent **-car-**)

perifibrillar substance = a plasma-like substance surrounding neurofibrils

perilymph = a fluid which is contained within the bony labyrinth, and which in certain regions separates the membranous labyrinth from the bony walls

perimeter = an instrument for mapping the retinal field, it consists typically of a quadrant rotating about one of its limiting radii as an axis so that on every point of this arm, and at every angle (corresponding to some point on the retina) a stimulus can be given and the visual impression recorded on a chart, the eye being placed at the center of the quadrant and fixated upon its center of rotation [Sometimes a semicircular arm is used rotating about its middle radius Cf **campimeter** = for mapping the retinal field on a flat surface]

perimetry = the operation of mapping the visual field, i e the retinal field projected outward on a spherical surface by means of a **perimeter.** [Cf **campimetry,** in which the map is projected upon a flat surface, so that as the value of the angles increases, the distance from the center of fixation becomes relatively greater]

perineum = the region at the base of the pelvis and surrounding the abdominal outlets (Accent **-nee-**) **perineal**[a]

period = (*phys*) the time in seconds required for one complete cycle of a sine-wave or other regularly recurring phenomenon [The **period** is the reciprocal of the **frequency**]

periodic function = (*math*) any function which repeats the same set of values at regular intervals when the variable increases or decreases uniformly

periodic psychosis = a mental disorder which recurs at more or less uniform intervals [Often used for any kind of recurrence]

periodicity = the recurrence of an event or type of event at regular intervals

periosteal reflex = sharp contraction of the muscle upon tapping a bone of forearm or leg [An abnormal reflex Mediated by 5th to 8th cervical (or) by 2d lumbar to 3d sacral segments Syn **bone reflex**] — Fr *réflexe perioste*

peripheral = pert to or located in the outermost part of the body or of an organ [Contr w **central**] **peripherad**^{adv} = toward the outermost part

peripheral hallucination = a hallucination which is suggested by a slight stimulation of some receptor, the effect of which is magnified and distorted [E g a slight touch on the skin may be interpreted as an intense pain]

peripheral nerve = any one of the nerves which connect receptor or effector organs with the cord or brain [Includes both sensory and motor nerves]

peripheral nervous system = the totality of nerves connecting the brain and spinal cord with the receptor and effector peripheral organs [Usually, but not strictly, limited to the peripheral portion of the cerebrospinal system, excluding the **autonomic** Contr w **central nervous system**]

periphery = the outermost part of the body or an organ **peripheral**^{a}, **peripherad**^{adv} = towards the periphery — Ger *Umfang, Umkreis*

periphery of retina = the region of the retina remote from the center of vision, as distg fr the **central region**

peristaltic contraction = a rhythmic wave of constriction which occurs normally in the digestive tract and other tubular hollow viscera, such as ducts

peristalsis = wave-like contractions which pass along the alimentary canal or other similar structure, and serve to propel the contents [Contr w **antiperistalsis** = contractions passing in the reverse direction] **peristaltic**^{a} — Fr *péristaltisme*

peristomial = (in low animals) pert to or located in the region about the mouth (Accent -**stow**-)

peritoneum = the smooth membrane which lines the abdominal cavity and covers many of the contained organs, such as the alimentary canal, liver, and other viscera (Accent -**nee**-) **peritoneal**^{a} (Accent -**nee**-) — Ger *Bauchfell*

permanence = persistence in time without change **permanent**^{a}

permutation = any one of the possible arrangements of the items of a group, as contr w other possible arrangements [Thus, the items *abc* have six permutations, *abc, acb, bac, bca, cab, cba*]

pernicious trend = (*psychoan*) the expression of ideas showing a deep regression from conventional thinking so that the pregenital interests are active and predominant, e g schizophrenia [Syn **malignant trend** (prefd) Contr w **benign trend**]

peroneal reflex = reflex muscle movements elicited by a stroke on the peroneus muscle of the fibula [Mediated by 5th lumbar to 1st sacral segments of spinal cord]

persecution/delusion of = morbid misinterpretation of feelings and experiences as due to machinations and malicious influences or intentions of inimical forces [Syn **persecution mania** (obsolete) Cf **paranoia**] — Fr *folie (idées délirantes) de la persécution*, Ger *Verfolgungswahn*

perseveration, perseverative tendency = 1 the tendency of a feeling, idea, act, or disposition to recur with or without the aid of associative tendencies, 2 the tendency of any mental formation, once initiated, to remain and run a temporal course, 3 (*path*) the persistent repetition or continuation of a word, sentence, or action after it has been once begun or recently completed [Cf **p factor**]

persistence = 1 continued existence, 2 continuance of an effect after its cause is removed, e g persistence of a visual impression, 3 continuance of a line of behavior against opposing incentives or motives — Ger (1) *Beharren*, (2) *Nachdauer*, (3) *Beharrlichkeit*

person = a human organism regarded as having distinctive characteristics and social relations [Cf **personality, self**] **personal**^{a}

persona = a function-complex which has come into existence for reasons of adaptation or necessary convenience in relation to an object, but not identical with individuality (Jung) [Contr w **anima**]

personal equation = a time error in observing and recording the onset of an observation, which varies in value from observer to observer and to some extent in the same observer [Variability of the personal equation is influenced by the nature and intensity of the stimulus, direction of the observer's attention (cf **complication experiment**), age, maturation, and physiological condition of the observer, etc Astronomers originated the term and concept to account for individual differences in recording stellar transits] Pop used to characterize any individual difference in the action of a person — Ger *persönliche Gleichung*

personal identity = 1 the continuous existence of a given individual in spite of changes in structure and functions, 2 the subjective sense of such continuous existence

personalism = the doctrine that in mental science and philosophy the person must be central [E g Stern's system of philosophy and psychology] — Ger *Personalismus, Personalistik*

personality = 1 the integrated organization of all the cognitive, affective, conative, and physical characteristics of an individual as it manifests itself in focal distinctness to others, 2 the general characterization, or pattern, of an individual's total behavior, 3 the field property or form of the individual's total behavior-pattern, 4 those characteristics of an individual most important in determining his social adjustments, 5 (*pop*) the physical and affective qualities of an individual as they synthetically attract or impress others [Cf **personality type**]

personality/dual = an abnormal organization of the individual, in which two distinct systems of personality are manifested at different times, or at the same time [Cf **personality/multiple** (the generic term), and **co-consciousness**] — Fr *dédoublement de la personnalité*, Ger *Doppelbewusstsein, Doppelich, doppelte Persönlichkeit*

personality/multiple = the personality of a single individual, dissociated functionally into partly independent systems of experiences, usually in alternation [Sometimes used generically to

include **dual personality** = personality dissociated into two systems]

personality/primary = the fundamental or predominant phase of personality in cases of dissociated personality [Cf **personality/multiple**]

personality/secondary = 1 an organized group of experiences split off from (i e unrelated to) the general mental organization, 2 in cases of dual or multiple personality, an organized group of experiences which is subordinate to the predominant or **primary personality** [Cf **personality/multiple.**]

personality type = the classification of an individual according to the pattern of his outstanding responses or behavior tendencies [Classifications differ according to the aspect of personality under consideration, the most prominent are those based on (1) the direction of the psychic energy or libido introvert vs extravert (Jung), (2) the faculty psychology thinking, feeling, willing, (3) temporal relation of the mental process primary vs secondary function (i e narrow-deep and shallow-wide types, Otto Gross), (4) clinical morphology macrosplanchnic, microsplanchnic (DeGiovanni school), (5) constitutional system digestive, respiratory, cerebral, and muscular types (Sigaud), (6) biotypes cycloid vs schizoid, (7) physique leptosome (asthenic), dysplastic, pyknic, and athletic (Kretschmer), (8) values economic, social, political, theoretical, artistic, religious (Spranger)]

personation = assuming the character and acting the part of another person, i e assuming the identity of another [Cf **impersonation, personification**]

personification = the attribution to inanimate objects or natural forces of personal or human characteristics **personify**[v]

personnel = the staff or employees of a business, army, or institution, as distg fr its **equipment** or **plant**

personnel management = the selection, induction, and maintenance of the personnel of an industry or an institution [Includes functions of hiring, placement, transfer, promotion, and discharge, training and supervision, maintenance of health, safety, satisfactory working conditions, and wholesome personal relations, supervision of employee insurance, pension and benefit funds, recreation and library facilities, etc] — Fr *organisation du personnel*

personnel research = the study of man in relation to his occupations and his training therefor [Generally undertaken with a view to improving the adjustment of employees or students to their work or to improve their attitude toward it Cf **personnel management**]

personology = a term sometimes used to designate the study of personality as a distinct branch of psychology [Cf **characterology, psychography** (2)]

perspective = perception of the relative distance of various objects, or their parts, from the body of the observer, by means of the apparent size of the objects, relative size of parts, shading, etc [Cf **depth perception**]

perspective/binocular = perception of depth or distance as effected by the use of both eyes [Distg fr **monocular** (or **uniocular**) **perspective** = based on data furnished by a single eye]

perspective/temporal = memory for the relative distance in time of various past experiences from the present moment

perspicacity = a high degree of discernment or understanding [Not to be confused with **perspicuity**] — Ger *Scharfsinn*

perspicuity = clearness of expression in a narrative or report [Distg fr **perspicacity** = exceptional ability in discerning relations] **perspicuous**[a]

perspiration = secretion of the sweat (or sudoriferous) glands [**sensible perspiration** = sweat in quantities sufficient to be visible, **insensible perspiration** = not detectable by the senses]

persuasion = the act of convincing another individual, or the act of making effective suggestions [Usually takes the form of an appeal to the intellect, but its effectiveness depends upon an appeal to (non-rational) prejudice, emotion, and suggestion] **persuade**[v], **persuasive**[a] — Ger *Überredung*

perturbation = an unpleasant emotional condition marked by confusion, unrest, worry, or inability to form conclusions leading to an acceptable line of action

perversion = 1 degeneration or pathological alteration of any of the fundamental instincts or tendencies, 2 (*psychoan*) = a deviation or aberration in reference to the sexual object, e g fetishism, sadism, masochism, etc , 3 misrepresentation of facts, etc

perversion/sexual = any pathological or abnormal sexual desire or manner of gratification [The term includes **inversion**, but covers other forms as well] **pervert**[n,v] — Ger (1) *Verschlechterung*, (2) *Verkehrtheit*, (3) *Verstellung*

pessimism = that attitude toward the social organization, or toward life in general, which emphasizes the elements of discord therein, and despairs of the future of social evolution [Contr w **optimism**] **pessimist**[n,p], **pessimistic**[a].

petitio principii = a fallacy of reasoning, which consists in assuming covertly at the outset (i e in the premises) the very conclusion which the reasoning is designed to prove [Lat Syn **begging the question**]

petit mal = momentary suspense of consciousness with or without presence of full-fledged epilepsy [Fr]

petrous bone, see **temporal bone**

phacoscope, phakoscope = an instrument for observing the accommodative changes of the eye-lens in another individual by means of the images reflected from its surfaces [Cf **Purkinje-Sanson images**]

phagocyte = a variety of white blood-corpuscle, which engulfs and devours solid materials such as micro-organisms and broken-down fragments of disorganized tissues

phagocyte theory = the doctrine developed by Metschnikoff, that immunity to disease is conferred through the destruction of invading micro-organisms by phagocytes

phalanges[pl] = the bones of the fingers or toes

phallic phase = (*psychoan*) a belief occurring in the early period of childhood, according to which, only the male genital organ (**phallus**) is supposed to exist in both sexes (Freud) [Syn **phallic organization**]

phallus = 1 (*anthrop*) an artifact designed to represent any or all of the male sex organs, 2 (*psychoan*) a symbolic representation of the male sex organs **phallic**[a].

phantasm, see **fantasm**

phantasy, see **fantasy, fancy**

phantom sound, phantom = an auditory perception of a sound-source localized with reference to the head, either stationary or in motion [The term is used specifically in reference to the effects produced in auditory localization experiments by unequal stimulation of the two ears Syn **sound image** Cf **localization of sound**]

pharyngeal reflex = contraction of the pharyngeal constrictors elicited by touching the back of the pharynx [Mediated by the glossopharyngeal and vagal arcs through the pharyngeal plexus]

pharynx = the musculomembranous sac situate between the mouth and the nares and the esophagus [Commonly divided into three parts (1) **nasopharynx** = part above soft palate, (2) **oropharynx** = part which communicates with the mouth, (3) **laryngopharynx** = part which opens into larynx and esophagus] **pharyngeal**[a] (accent -rinj-)

phase = the momentary value of a magnitude which is executing simple periodic variations, as measured in relation to one of its values chosen as a reference point [Sound vibrations, alternating electric currents, and other periodically varying magnitudes which may be expressed in terms of simple circular or simple harmonic motion, undergo a phase change of 360°, or 2 π radians, during each period, or cycle, any given point within the cycle may be expressed by the number of degrees (or radians) of phase from the reference point Two simple harmonic motions are *in phase* when both attain their maximum values at the same time When this is not so, they are *out of phase* When one attains its maximum as the other reaches its minimum (i e when they are 180° out of phase) they are said to be at *contrary* or *opposite* phases The *phase difference* of two simple harmonic motions is the time difference (expressed as a fraction of a period, or cycle) of their respective maxima The motion attaining its maximum first within a given half-period is said to be *leading in phase* and the other motion to be *lagging in phase*] **phasic**[a]

phenomenal field = the totality of objects or events which are directly experienced at any one moment [Syn **perceptual field, perceptual pattern**, contr w **sensation** (an elementary experiential process)] — Fr *champ phénoménal*

phenomenalism = the theory which holds that human knowledge is limited to phenomena (i e to possible experience), and does not reach the real nature of things **phenomenalist**[np]

phenomenology = the systematic investigation of phenomena or conscious experiences, esp as they occur immediately in experience, without implications [Used technically for the philosophical method of Husserl, based on the concept that transcendental subjectivity is immediate experience This method is a propaedeutic to all special sciences (Stumpf), including psychology, but as the method implies pure consciousness, it is closely allied to introspective psychology and owes much to Brentano's empirical (i e intentional) psychology Husserl distinguishes phenomenological psychology as the study of the types and forms of intentional psychology] **phenomenological**[a]

phenomenon = a datum of experience, or a group of such data, which occur at a given moment and are observed or are capable of observation **phenomena**[pl], **phenomenal**[a] — Ger *Phänomen, Erscheinung*

phi-gamma function = an ogive plotted from a normal probability curve, whose frequencies have been cumulated from the lower end upward, i e the $\phi(\gamma)$ function is the integral of a normal curve

phi-gamma hypothesis = a hypothesis concerning the distribution of comparative judgments in the method of constant stimuli if a series of comparison stimuli, separated by equal intervals and extending on each side of the standard, be compared with this standard under carefully controlled and strictly uniform conditions, it may be assumed that the proportion of greater (or smaller) reports will lie upon a curve known as phi function of gamma, $\phi(\gamma)$, an ogive or S-curve which is the cumulative or integral function of the **normal curve of error.**

phi-phenomenon = 1 (*hist*) the specific movement-aspect of objects perceived in motion, as an experience not reducible to other sense qualities (Wertheimer), 2 the appearance of motion from stationary stimuli when they are presented successively in two neighboring positions [Most often limited to visual perception of motion, but also applied to auditory and tactual phenomena In the **pure phi-phenomenon** no trace of color, of an object, or of anything except motion can be discerned]

philander = to perform some of the distinctive acts of courtship without serious intention **philandering**[n], **philanderer**[np]. — Fr *courtiser*

philosophy = the branch of learning which investigates the ultimate nature of knowledge and of existence [Applied historically to any systematic attempt at knowledge, e g natural philosophy = physics Still often used to cover certain social sciences, such as ethics The recognized branches are **epistemology** (= theory of knowledge) and **metaphysics** (= theory of the real nature of things)] **philosophical**[a] (used also loosely to characterize an optimistic or a stoical attitude)

phlegmatic = a type of temperament characterized by passivity and indifferent feeling tone [Formerly attributed to the predominance of the phlegm in the bodily humors Syn **lymphatic** Cf **temperament**]

phobia = exaggerated and usually pathological dread of some specific type of stimulus or situation [A number of common types have been named (see Table VIII), other forms are named by more occasional observers Used extensively as suffix in a non-technical way (e g Anglophobia), and contr w **-mania** or **-philia** = exaggerated predilection toward]

phonation = the production of speech sounds by the human voice

phonautograph = an instrument for the direct recording of sound-waves, a stylus is attached to a membrane placed at the focus of a sound collector, and writes on a revolving drum a record of the movements of the membrane in response to sound [Cf **phonelescope, phonoscope, phonodeik**]

phoneidoscope = an instrument for the visual observation of sound-waves, consisting of a soap film placed in the path of the sound so as to vibrate with the changes of pressure, and to reflect a beam of light cast upon it

phoneloscope = an instrument for the observation and measurement of sound-waves by means of a mirror attached by a thread to the diaphragm of a telephone receiver so as to deflect a beam of light in accordance with movements of the diaphragm [Cf **phonoscope**]

phonetic law = a generalization made from studies of common tendencies and changes among the sounds of speech — Ger *Lautgesetz*

phonetics, phonology = the branch which investigates vocal sounds in all their manifestations, physiological, physical, and experiential [The study includes various forms of vocalization, the positions of vocal organs for each form, principles of modification of sounds from one language to another, etc **phonetics** is concerned with vocal sounds in general, **phonology** with a particular language]

phonodeik = an instrument for recording or projecting sound-waves which resembles the **phonautograph** somewhat, but is of greater refinement and sensitivity, a diaphragm at the end of a resonator horn carries at its center a fine thread, which leads around the pulley of a minute spindle to a tension spring, the spindle bears a small mirror on which a beam of light is cast, and movements of the diaphragm in response to the pressure variations of sound are thus communicated to the light beam, and may be observed on a screen or recorded on a photographic plate

phonogram = 1 a graphic representation of a word, syllable, or single speech sound, 2 a phonograph record, or a reproduction of sounds by means of it

phonometer = 1 a type of instrument for measuring differences of auditory acuity, 2 also sometimes applied to an instrument for determining the lower intensive threshold for sound [Cf **Wundt's gravity phonometer, Rayleigh disk, phonoscope**]

phonopathy = any disease or disorder of the organs of speech

phonophobia = morbid dread of speaking aloud

phonoscope = a generic term applied to various types of instrument for visual observation or recording of sound-waves or the movements of sounding bodies [Syn **phono-projectoscope** Cf **phonautograph, phoneidoscope, oscillograph, tonoscope, phoneloscope**]

phoria = (*ophthal*) a suffix sometimes used as a word, syn with **muscle balance** [Cf **imbalance/muscular**]

phorometry = the measurement of the degree of imbalance of the extrinsic eye-muscles

phosphene = a bright area in the visual field produced by distortion of the eyeball, either by pressure of an external object or during the normal process of accommodation

photerythrous = characterizing color vision in which the effectiveness of long wave-length stimuli is normal or heightened [A peculiarity of **deuteranopia**, and certain forms of **anomalous trichromasy** Distg fr **scoterythrous**]

photism = 1 a false perception (hallucination) of bright light, either localized or widespread [The brightness gives the impression of freshness or newness It appears occasionally on recovering from intense fever, or as a sequel to violent emotion, e g in religious conversion and in other mystical experiences A corresponding phenomenon appears, more rarely, in the field of taste and smell]

photism = 2 a form of *synesthesia* in which a visual perception of color, tint, or form appears invariably and persistently attached to specific sensations of other modalities [A common form is colored hearing]

photochemical = pert to photochemistry which treats of chemical changes as produced or modified by light

photochromatic interval = the range of visual stimulus-intensity, for a chromatic stimulus, between the absolute threshold or limen for light-perception, and the threshold for hue [There is said to be no photochromatic interval for long-wave light, i e in the red end of the spectrum Syn **colorless interval**]

photo-electric cell = an electrical device for detecting and measuring light, it depends upon the principle that radiant energy releases electrons from certain of the less heavy metals or their compounds (potassium or caesium are ordinarily used), such electron emission, within the exhausted glass globe of the cell, renders the space of the globe conductive, and permits an electric current to pass between electrodes sealed into the glass, this current being approximately proportional to the radiant intensity at any instant — Fr *cellule photo-électrique*

photographic observation dome = an arched room or compartment for the observation of infants, which is provided with adjustable cameras and other recording instruments, the sides are made up in whole or in part of **one-way vision screens** permitting vision from the outside inward, but not from the inside outward

photokinesis = the effect of light upon organisms in producing activity, apart from their specific responses to visual stimuli [Applied to the relative general activity of certain lower species in bright light, as compared with their sluggishness or general inactivity in the dark] **photokinetic**[a]

photokymograph = a camera having a narrow slit and cylindrical lens, and an arrangement by which photographic paper or film may be made to pass at a controlled rate across the opening, a beam of light projected upon the slit casts shadows of moving pointers, etc, or of the string of a string galvanometer, upon the sensitive surface, the movements of these shadows being photographically recorded [Syn **recording camera**]

photoma = a simple type of visual hallucination, in which flashes of light, sparks, etc are seen **photomata**[pl]

photometer = any optical device which utilizes equations of brilliance to permit the measurement of a photometric quantity, such as candle-power, illumination, or brightness [The **equality-of-brightness photometer** employs simultaneous comparison of juxtaposed visual areas, in the **flicker photometer** the stimuli which are to be compared are presented successively in the same visual area]

photometric measure = a measure of luminous radiant energy in photometric terms, rather than in terms of (introspective) sensation-magnitude, on the one hand, or of physical energy, on the other

photometry = the measurement of luminous radiation on the basis of its effect upon the visual receptors, under standard conditions, and usually involving an adjustment of two contiguous parts of the visual field, either to identity or to

a minimal difference [**heterochromatic photometry** involves the measurement of the relative intensity of differently colored radiations Cf **flicker photometry**. Distg fr **radiometry**, based on radiant energy measures only] (Accent -tom-) **photometric**[a]

photon = a unit of visual stimulation defined as that illumination upon the retina which results when a surface brightness of 1 candle per square meter is seen through a pupil of 1 square millimeter area

photopharmacology = a systematic study of the effects of light and other radiations on the pharmacological properties of drugs and poisons

photophobia = 1 reluctance to use the eyes in strong light, 2 morbid fear of strong light [Syn **light-dread** Found (1) in the totally color-blind, and in albinos Probably associated with pigmentary anomalies]

photopic adaptation, see **adaptation**

photopic vision = vision as it occurs under illumination sufficient to permit the discrimination of colors [Believed to depend upon the functioning of the retinal cones instead of the rods alone Syn **daylight-vision**, contr w **twilight** or **scotopic vision**]

photoreceptive (or **photoreceptor**) **process** = that specific process which is set in motion in a visual sensory end-organ or other photic receptor by the incidence of its adequate stimulus, i e light [It is usually assumed to be a photochemical change of some sort, e g the decomposition by light of the visual purple of the retinal rods]

photoreceptor = a receptor which is adequately stimulated by energy of the band of wave lengths that make up the visible spectrum

photosynthesis = the production of carbohydrates from carbon dioxide and water through the agency of light [This process occurs in the green parts of plants in the presence of a pigment, chlorophyll, which plays an essential part in the process]

phototropism, phototaxis = an orienting response, either positive or negative, to light [Cf **tropism**] (Accent -tot-, -tax-) **phototropic**[a], **-tactic**[a]

phrenic nerve = the peripheral nerve through which the diaphragm is activated, and which sends branches to the pericardium and to the pleura

phrenology = (*hist*) the doctrine that specific mental faculties are localized in definite cerebral regions, the degree of development of the faculty correlating with the prominence of the region as indicated largely by the contour of the overlying skull [Developed by F J Gall and J G Spurzheim (1810 ff) The faculties assumed to be thus localized were complex and general, e g philoprogenitiveness, veneration, truthfulness, etc The system was at first called **cranioscopy**, also **physiognomy**]

phrictopathetic sensations = tingling sensations of a tactual character, irritating, and indefinitely localized

phyletic = pert to a **phylum**

phylogenesis = the origin and evolution of races or species, or of any organ or function in a given species [Applied usually to the general problem of evolution Contr w **ontogenesis** = individual development] **phylogenetic**[a].

phylogeny = the origin and evolution of races or species [Cf **phylogenesis** Contr w **ontogeny** = the development of the individual] **phylogenic**[a]

phylum = a term applied to the most general and comprehensive divisions of the animal or plant kingdom [Cf **classification/zoological**] **phyla**[pl], **phyletic**[a].

physical = 1 pert to physics, 2 pert to the physicochemical world, as distg fr the realm of mental phenomena

physical anthropology, see **somatology**

physical (or **physicochemical**) **science** = the entire group of branches which investigate matter, its constitution, and its principles of interrelation and activity [Cf **physical world**]

physical phenomena = (*psych res*) = the occurrence of raps, the movement of objects, the appearance of lights, the passage of matter through matter, etc all associated with an undetermined intelligence, and under conditions assumed to exclude known physical causes [Syn **objective metapsychics**]

physical world = the universe as investigated by physics and chemistry, consisting of units of matter (electrons, atoms, etc) and their relations [Syn ***physicochemical world, material world*** Contr w **psychical** (or **mental**) **world**, consisting of experiences or subjective phenomena, and of selves] — Fr *monde physique*

physicochemical = pert to the realm of physics and chemistry

physicosocial = pert to those social relations which are determined largely by the physical environment [Distg fr **biosocial** and **psychosocial**]

physics = the branch of science which investigates matter and the principles of its activity, excluding the compounding of elements (*chemistry*) and the special principles of organic life (*biology*) **physical**[a]

physiogenesis = the development of vital functions [Contr w **morphogenesis** = the development of structure]

physiognomy = 1 the interpretation of the structure or expressive movements of the body, esp of the cast and expression of the face, as subject to emotional and other mental conditions, 2 (*pop*) syn for facial expression or the face itself, 3 (*hist*) syn for **phrenology** [(1) applied chiefly to unscientific systems of interpreting human character from the form of the face and other outward appearances] — Fr (1) *physionomie*

physiognomy systems = methods of determining mental characteristics or traits by observing or measuring aspects of the individual's outward appearance, esp the face [Usually applied to systems exploited commercially, empirical correlations of physiognomic and mental characteristics are uniformly insignificant]

physiological age = a rating of an individual's physiological development in terms of the average physiological development of unselected samples of successive chronological age groups [Physiological development is usually defined in terms of the functioning of the sex organs Cf **anatomical age**, **mental age**]

physiological gradient = a line of decreasing intensity of the vital reaction which results from stimulation [A *physiological gradient* lying along the longitudinal axis of the organism has the area of most intense activity cephalad

Areas of high metabolic rate tend to dominate adjacent areas which have a lower rate] — Fr *gradient physiologique*

physiological limit = 1 the limit of possible attainment of speed or efficiency in any given motor act, simple or complex, due to the limitations of speed or energy in the nerves and muscles, 2 that maximum of any physiological function which cannot be exceeded without permanent impairment of the function

physiological process = a process which is specifically correlated with some vital phenomenon in an organism

physiological psychology = the branch which investigates the functions of the nervous system, receptors, and effectors in their bearing on behavior and mental processes

physiological selection = a form of selection which depends upon different degrees of sterility in the matings of different incipient varieties [These differences were supposed by Romanes to lead to the sexual isolation of certain types and hence to create the possibility of their divergence from other members of the species with which they might otherwise be swamped by intercrossing]

physiological state = the general metabolic condition of an organism at any given moment, regarded as modifying its responses to external stimuli [E g the condition of the digestive organs modifies the response to food stimuli] — Fr *condition physiologique*

physiological time = the time required for a new stimulus to overcome the inertia of the sense organ, plus the time required for the transmission of the aroused impulse from receptor to center and from center to effector [This hist use excludes the duration of central processes, although these are also physiological] — Fr *temps de latence physiologique*

physiological zero, see **zero/physiological**

physiology = the branch of biology which deals with the functions (or modes of operation) of an organism or any part of it [Contr w **morphology** (or **anatomy**) = the structural arrangement] **physiologic(al)**[a]

physique = a loose term denoting the general structural organization of an individual — Ger *Korperbau*

physostigmin = the active principle of Calabar Bean or Ordeal Nut, a powerful alkaloid which stimulates the myoneural junctions of the sympathetic system and also (to some extent) striped muscle [Its principal medicinal use is to produce myosis (contraction of the pupils) and to stimulate intestinal peristalsis Syn eserin]

pia-arachnoid = the pia mater and arachnoid coverings of the cerebrum, considered as a single organ

pia mater, pia = a membrane which immediately covers the brain and spinal cord, being itself covered in turn by the **arachnoid** and (outermost) the **dura mater** [Lat "fostering mother" The pia is highly vascular] — Fr *pie-mere*

piano theory, see **hearing/theories of**

pictograph, pictogram = the pictorial representation of an idea or event [**pictogram** prefd Cf **ideogram**] — Ger *Bilderschrift*

picture = 1 a representation on a surface by pen, chisel, etc , 2 a verbal representation of some situation, e g disease picture — Fr (1) *image, représentation graphique*, (2) *description*, Ger *Bild*

picture completion test = a type of test in which the task is to supply or indicate the missing parts in an incomplete or mutilated picture [E g the **mutilated pictures test** in Year VI of the Binet-Simon scale] — Fr *test de complètement de dessins*

picture interpretation test = a type of test designed to measure ability to understand or explain the meaning of pictures [As developed in the Binet-Simon scale, the simple *enumeration* of objects in specified standardized pictures is regarded as a three-year-old, the *description* of them as a seven-year-old, and the satisfactory explanation (*interpretation*) of them as a twelve year-old performance] — Fr *test d'interprétation d'image*

picture/retinal = the effect on the retina due to stimulation by some object [Less ambiguous than **retinal image**, the accepted term] — Fr *image rétinienne*

picturesque = any visual perception which seems to conform to the ordinary rules of artistic composition **picturesque**[a]

piecemeal activity/law of = the principle that a part or element or aspect of a situation may be prepotent in causing response, and may have responses bound more or less exclusively to it, regardless of some or all of its accompaniments (Thorndike) [Syn **law of partial activity**] — Fr *l de l'activité fragmentaire*

piecemeal learning, see **whole and part learning**

pigment layer = the 1st or outermost stratum of the retina, consisting of a single layer of epithelial cells containing pigment [Syn **layer of hexagonal cells** Cf **retinal layers** and Table XI]

pillars of Corti, see **rods of Corti**

pilomotor nerves = nerves which control the muscles that erect the hairs

Piltdown man = one of the earliest types of primitive man, represented by a skull found in 1912 near Piltdown, England [Though in general the skull resembles modern man rather than Neanderthal man, the lower jaw is simian in form, other peculiarities suggested a new genus, as *Eoanthropus dawsoni*, distinct from *Homo neanderthalensis*, etc Also called **Sussex man**, or Eoanthropus dawsoni]

Piltz's reflex, see **attention reflex**

pineal body (or **gland**) = a small oval glandular outgrowth of the epithalamus which projects from the dorsal wall of the third ventricle of the brain and is situated medially in the groove separating the lateral halves of the diencephalon, just anterior to the upper border of the tectum of the mesencephalon [Syn **conarium, corpus pineale, epiphysis cerebri** Distg fr **paraphysis**, an evagination of the membranous roof of the telencephalon in front of the velum transversum in some vertebrate brains In certain lower vertebrates the pineal body is modified to form a dorsal median eye, in higher forms it probably has an endocrine function, but in the child it undergoes an involution after the seventh year Considered by Descartes to be the seat of the soul] — Fr *glande pinéale*, Ger *Zirbeldrüse*

pinna = a funnel-shaped cartilaginous body which opens into the external auditory meatus, and serves as a collector of sound [It is supplied

with muscles, which in many animals serve to turn the concave face of the organ toward the source of sound Syn **auricle,** applied more often to man] — Fr *pavillon,* Ger *Ohrmuschel*

pinna reflex = movements of the external ear of certain animals when that organ is pricked, squeezed, or tickled, or in some cases on stimulation by sound [Syn **Preyer's reflex, ear reflex**] — Fr *réflexe auriculaire*

pipe = (*mus*) a sound-producing instrument, consisting of a tube of calibrated length and an aperture for applying wind [There are two sorts, the **closed pipe,** in which the farther end of the tube is sealed, and the **open pipe,** in which it is open The pitch of a closed pipe is one octave lower than that of an open pipe of the same length] — Fr *tuyau sonore,* Ger *Pfeife*

pistonphone = an apparatus which produces alternating pressures (tones) directly by the movements of a piston against an air column

piston recorder = a piston-cylinder combination for recording pulse or other volume changes

pitch = 1 (*psychol*) that attribute or characteristic of tonal sensation by means of which tones and noises may be differentiated as high and low, or acute and grave, 2 (*phys*) the frequency of periodic sound-wave vibrations, 3 (*mus*) the region of frequency in which a piece of music is executed [In musical notation, **pitch** is designated by position on the staff or by a letter with or without accent. In designation of pitch by letter and accent, the successive octaves are represented as C_2, C_1, C, c, c^1, c^2, c^3 where c^1 represents middle C (= 256 ∼ on the scientific scale), c^2 the first octave above (= 512 ∼), c the first octave below (= 128 ∼), etc Cf (3) **pitch/standard**] — Fr (1) *hauteur tonale,* (2) *hauteur,* Ger *Tonhohe*

pitch/absolute = the ability to recognize a tone and name it, or to reproduce a designated tone after a considerable interval of time [Distg fr **relative pitch** = ability to recognize a given pitch *interval,* or to reproduce the second tone if the first be given] — Fr *hauteur absolue,* Ger *absolutes Gehor*

pitch fork = a small tuning fork of standard pitch used for tuning violins or other instruments or to give the initial tone in singing — Fr *diapason etalon*

pitch pipe = a small pipe containing a reed, designed to produce a tone of standard pitch, used to tune musical instruments and to determine the key in singing — Fr *tuyau d'orgue étalon*

pitch/relative = ability to recognize or reproduce pitch intervals, as in humming or singing a tune [Contr w **pitch/absolute**]

pitch/standard = a certain tone of fixed vibration rate, selected as a standard for the tuning of musical instruments [In music, various standards have been used *Classical pitch,* used in the late 18th century, gave *a'* a frequency between 415 and 438 cycles (∼) or double vibrations (q v) *Concert pitch,* or high pitch, giving *a'* a frequency of about 450∼, is still used in some English organs and bands *Scheibler's pitch,* or *Stuttgart pitch,* is based on *a'* = 440∼ The prevailing pitch since 1859 is *international* or *low pitch,* with *a'* = 435∼ In scientific work *philosophical* or *scientific pitch* is used, with *c'* = 256∼, i e *a'* = 426 7∼ Cf **scale** (2) and Table VII] — Fr *son étalon* Ger *Normalstimmung*

pithecanthropus erectus = an extinct type of primate which resembles *homo sapiens,* identified from a skull found in Java by Dubois [It is the earliest and lowest known type of man's immediate precursors Syn **Java man**]

pithecoid = resembling or pert to an ape or monkey

pithiatism = 1 the cure of nervous and mental disorders by persuasion, 2 syn for **hysteria** (Babinski)

pituitary gland = a small compound endocrine gland situate at the base of the brain in the *sella turcica* of the basisphenoid bone, it is united with the floor of the third ventricle by the pituitary stalk or infundibulum, and is composed of (*a*) an anterior lobe or *pars anterior,* which produces at least two important autacoids, (*b*) a posterior lobe consisting of *pars intermedia* and *pars nervosa,* extracts of which are physiologically potent, and (*c*) a *pars tuberalis,* surrounding the infundibulum and covering the tuber cinereum [Syn **hypophysis cerebri, pituitary body**] **pituitary**[a] = pert to this gland

pituitary liquid, see **pituitary/solution of**

pituitary/solution of = an extract of the posterior lobe of the pituitary gland, whose principal pharmacological actions are pressor, oxytocic, and antidiuretic in the mammal, and melanophore-expanding in the frog [Its precise relation to the autacoid or autacoids of the **pituitary gland** is not yet established Special proprietary products are termed **hypophysin, pituitary liquid, pituitin, pituitrin, posterior pituitary extract**]

pituitin, see **pituitary/solution of.**

pituitrin, see **pituitary/solution of**

pity = an emotional attitude in which the misfortunes or ills of another individual arouse a feeling of sadness or tender solicitude [Distg fr **sympathy,** an attitude in which the emotional state or circumstances of another are felt for the time as one's own] — Fr *pitié,* Ger *Mitleid*

Placido's disk = a white disk with concentric black circles and a central sight-hole for observing its reflection in the cornea of an eye under examination, irregularity of the corneal surface is revealed by corresponding distortion of the reflected image [Syn **keratoscope**]

plan = a complex scheme of action mentally elaborated in advance of the performance

planaria, see **flatworms**

planchette = a small heart-shaped traveling table supported by two legs and a pencil, manipulated by the hands of one person for the purpose of obtaining involuntary writing [Syn **autoscope.** Related to the **ouija board** and **dowsing rod**]

plane = 1 (*geom*) a two-dimensional figure (i e surface) such that the straight line joining any two points in it lies wholly in the surface

plane = 2 any one of the three reference surfaces in the body which are used in describing location of parts of the body, etc [They are known as the **transverse, frontal,** and **mesial** (or **medial**), planes parallel to the mesial are called **sagittal** See Table XVI]

planimeter = a device for measuring the area of plane figures, particularly those of irregular outline, it consists essentially of two levers pivoted together, one bearing a point which is traced by hand round the bounding line, while the resulting lever movements cause a contact

wheel and connected dials to register cumulatively and thus supply the data for computing the area [Syn **platometer.** Cf **chartometer**]

plankton = the floating or slowly moving (usually small) forms of plant and animal life found in the sea or in bodies of fresh water [Distg fr **nekton,** consisting of the larger, more active forms, such as fishes]

plant = a member of one of the two kingdoms of living organisms, chiefly characterized by ability to transform inorganic matter into organic compounds [Contr w **animal**]

plantar reflex = flexion of the toes, caused by stroking of the sole [Mediated by 1st and 2d sacral segments of the spinal cord Syn **sole r** Cf **Babinski reflex**]

plasm, plasma = the substance in cells (except inanimate inclusions) [Generally used in compounds, e g germ-plasm, cytoplasm] **plasmic**^{a}

plastic art = those objects of art which are generally produced by molding, modeling, or carving, such as sculpture

plastic response = any response of an organism which is subject to progressive variation (e g a conditioned response), thereby adapting behavior to changes in environment [Chiefly of cortical origin in higher vertebrates, of origin in correlation centers in lower vertebrates]

plastic tonus, see **tonus/plastic**

plasticity = 1 (*biol*) the ability of organisms to change (or vary) if the environment changes, 2 (*psychol*) in eidetic theory, the tendency of an image to be influenced by conditions immediately preceding the experiment, esp by a preceding experiment [(1) applies to either structure or function Cf (2) **perseveration**] **plastic**^{a}

plateau = a temporary halt in the progress of learning, or in the aspect of learning shown in a particular curve, indicated by inability to increase speed or to decrease the number of errors [So named from the level aspect of the curve or graph at this region] **plateaus, plateaux**^{pl}.

platometer, see **planometer**

Platonic friendship = a social relation between two individuals of opposite sex, in which sexual relations or sentiment are absent [Not to be confused with **Platonism** = a general philosophical theory] — Fr *amour platonique*

platyhelminthes, see **flatworms**

platykurtic, see **kurtosis**

platysma reflex, see **cutaneous-pupillary reflex**

play = the exercise of any of the typical forms of behavior of a given species without specific reference to organic needs [Characteristic of the young and also exhibited by adults as a means of relaxation, e g hunting as a sport] — Fr *jeu*, Ger *Spiel*

pleasantness = a characteristic of hedonic tone or feeling, whose motor correlate is movement toward the stimulus or a tendency to maintain the stimulus [Syn **agreeableness, pleasure** Contr w **unpleasantness,** whose motor correlate is movement away from the stimulus] — Fr *plaisir*, Ger *Lust, Annehmlichkeit*

pleasantness-unpleasantness/feeling of = one of the three dimensions or attributes of affective experience (Wundt)

pleasure-pain = a term used to denote the two antithetical qualities which characterize the affective aspect of consciousness [Syn **pleasantness-unpleasantness**] — Fr *plaisir-douleur*, Ger *Lust-Unlust*

pleasure-principle = (*psychoan*) the automatic regulation (or aspect) of mental activity, whose object is to avoid pain or procure pleasure [It is regarded by many as characteristic of the earliest stages of human development, both in the individual and in the race Contr w **reality-principle**] — Fr *principe de l'agréable*, Ger *Lustprinzip*

[illegible] ment for measuring the size of the finger, [illegible] nber due to fluctuations in the blood supply, it consists essentially of a rigid vessel filled with water, into which the member is inserted, a small tube leading from the vessel is connected with the recording device, which moves to and fro as the water in the tube advances or recedes according to the change in size of the member **plethysmographic**^{a}

pleura = the membrane that envelops the lungs **pleurae**^{pl}, **pleural**^{a}

plexiform layer, see **reticular layer/outer, /inner**

plexus = a network of nerves outside the central nervous system [E g **solar plexus** = in the region of the stomach, dorsad to this organ] — Fr *plexus, reseau*, Ger *Geflecht*

pluralism = the theory which assumes that ultimate reality consists of more than one sort of entity, such as electrons, monads, persons, etc [Contr w **singularism** or **monism,** and w **dualism**] **pluralistic**^{a}, **pluralist**^{np}

pluralistic behavior = any type of action, or any response to a specific stimulus, which is performed universally, or almost universally, by the individuals of a given group or region [E g covering exposed parts of the body in cold weather The concept as introduced by F H Giddings implied only the distributive behavior of individuals who all react alike, later construed by some sociologists to indicate behavior performed by a group as such To avoid this ambiguity, Giddings later substituted the term **multi-individual behavior.**] — Fr *comportement pluraliste*

pluteus = a free-swimming larval stage of a sea urchin or ophiuran, characterized by having long ciliated arms and an internal skeleton of calcareous spicules

pneumatograph, pneumograph = an instrument for measuring the rate, depth, and other characteristics of breathing, generally via chest movements, which are made to actuate a pneumatic recording system

pneumodynamograph = a **dynamograph** with an air piston in which the air pressure is varied by oral breathing, a recording tambour is attached

pneumogastric nerve = the X cranial nerve, which sends fibers to the breast, heart, lungs, larynx, trachea, esophagus, and abdominal viscera, and by small branches to the external ear [While commonly called *inhibitory*, it is also *motor* Syn **vagus**] — Ger *Lungenmagennerv*

pneumograph = a device for recording the rate and extent of respiratory movements by means of a double-headed tambour stretched across the individual's chest, with an attached rubber tube for communicating the movements to a recording tambour

pneumophonia = a form of **dysphonia**, characterized by a breathy voice

Poggendorff illusion = an illusion of visual space relations, in which a continuous straight line is broken by a super-imposed pair of parallel lines or a long-sided rectangle which crosses it at an acute angle, the two parts of the line do not appear to belong to the same straight line

point = 1 (*math*) that which has position but neither length, breadth, nor thickness, 2 the place of intersection of two lines, 3 a space location, disregarding the extensity of the object or stimulus there situate, e g warmth point or cold point on the skin, luminous point — Ger *Punkt*

point of regard, see **regard/point of**

point of subjective equality = 1 that value of the comparison stimulus which will be judged equal to the standard stimulus with a higher probability than any other comparison stimulus, 2 the point where the two psychometric functions of the greater and less judgments intersect, i e where the comparison stimulus is just as likely to be reported greater as less, 3 the point mid way between the upper and lower **thresholds** [In a symmetrical distribution of frequencies, these three points coincide All these meanings were suggested by F M Urban (1908)]

point of symmetry, PS = (*psychophys*) the point at which the psychometric functions of the upper category and the lower category intersect [Cf **point of subjective equality**]

point-scale = a form of arranging the material and particularly the scoring of a test, so that credit for passing a test or a portion of a test is given in points, or units of score, as contr w credit in terms of ages [The arrangement commonly permits partial credit, in distinction from the "all-or-none" method of scoring Cf the **Yerkes-Bridges scale**, the first point-scale published Contr w **age-scale**] — Fr *échelle en points*

pointer galvanometer, see **galvanometer.**

polar body = a small cell given off at the animal pole of the egg during one of the maturation or reduction divisions [Commonly two polar bodies are given off during maturation] — Fr *corps polaire*

polariscope = an instrument for observing the behavior of any substance toward polarized light, it consists essentially of a polarizer and an analyzer, mounted on a common axis, each consisting of a Nicol prism, when these are turned so that their planes of polarization coincide, the light polarized by the first is transmitted freely by the second, when the analyzer is turned at right angles to this, no light passes through, any substance placed between the two which rotates the plane of polarization of the light passing through it, will alter these settings of the analyzer by a corresponding angle

polarity = 1 (*soc*) a form of relation between two organisms, in which one is attracted towards the other, the attracted organism being figuratively conceived as a positive, the attracting as the negative pole, 2 (*soc*) the tendency for individuals to assume either the active or the passive role in social relations [(2) is extended to centers of attention in an audience Syn (2) **ascendence-submission relation** Cf **polarization**]

polarization = 1 (*phys*) the treatment of a beam of light or radiant energy in such a way that the waves oscillate parallel to a single axis transverse to the direction of propagation, e g by eliminating the wave-components parallel to a similar axis at right angles to the first, 2 (*biol*) a phenomenon of living tissue attributed to the accumulation of differently charged ions on opposite sides of a membrane, 3 a change in potential of the skin, esp during periods of no stimulation, 4 (*elect*) an effect produced on the electrodes of a cell by the deposition of gas due to electrolytic dissociation [Contr w **depolarization**] **polarize**[v].

pollution = the discharge of seminal fluid without coition

Poltergeist = (*pop*) a reputed roistering spirit to whom is attributed the commission of miscellaneous petty mischief in the household [Ger]

polyandry = a marriage between one female and two or more males [Contr w **polygyny,** in **fraternal polyandry** the husbands are brothers]

polydactylism = the possession of supernumerary digits, such as six or more fingers or toes [Syn **hyperdactylism**]

polygamy = marriage of one man to two or more women, or of one woman to two or more men [Syn **plural marriage** Cf **polygyny, polyandry**]

polygraph = an apparatus for measuring simultaneously a number of physiological processes, such as heart-beat, breathing, and muscular contraction, and for recording them side by side (together with a time line) on a revolving drum

polygyny = the marriage of one male to two or more females [Contr w **polyandry.**]

polylogia = continual talking, usually incoherently, due to mental disorder [A form of **dyslogia** Syn **logorrhea**]

polymorphism = the occurrence of several types of individual animals in a colony or community of individuals derived from the same parent **polymorphic (polymorphous)**[a].

polymorphous perverse = (*psychoan*) a term characterizing the constitutional multiple sex predispositions of the child (oral, anal, etc) from which, owing to the repression of certain components through education and social environment, the normal sex behavior of the adult develops [If these predispositions remain unrepressed in the adult, the same behavior is regarded as perverted (Freud)]

polyneuritis = inflammation of many nerves simultaneously

polyopia, polyopsia = a condition in which, owing to abnormal or pathological irregularities in the refractive apparatus, more than one image is formed on the retina of one eye [Contr w **diplopia** which ordinarily applies to a doubling of images on the two retinas]

polyphony = music in which two or more parts or melodies are rendered simultaneously [In the middle ages two voices often proceeded simultaneously, separated by fifths or octaves Cf **homophony**] (Accent -liff-) **polyphonic**[a] — Ger *Mehrstimmigkeit*

polyphyletism, see **convergent evolution. polyphyletic**[a]

polytypic evolution = evolution which results in the formation of several divergent types. [Contr w **monotypic**]

pons Varolii = a large transverse band of decussating nerve fibers which form the middle cerebellar peduncle and encircle the medulla oblongata at this level [Abbrev to **pons**] — Ger *Brucke.*

popliteal = pert to or located in the region behind the knee (Accent **-te-** or **-lit-**)

population = the totality of organisms, varieties, species, or groups of organisms which occupy a certain geographical region at a given time [Applied in genetic studies to human beings or other animals or plants] — Ger *Bevolkerung*

pornography = literature dealing with prostitution or sexual relations [Usually designating an obscene as distinct from a scientific mode of treatment] **pornographic**[a].

portamento = (*mus*) passage from one note to another by a continuous glide

Porter's law = the principle that the frequency of intermittence of a visual stimulus just necessary to abolish **flicker**, increases by equal amounts for equal increases in the logarithm of the intensity or brightness of the stimulus, and is independent of its wave-length composition or color

posit = 1 to assume, i e to make an assumption, 2 to state an assumption or hypothesis — Fr *poser, affirmer*, Ger *aufstellen, setzen*

position = 1 the spatial location of an object or datum in relation to other objects and with reference to the body of the observer, 2 a bodily posture or attitude, 3 the general mental attitude assumed with respect to a given problem, 4 (*math*) location within some frame of reference — Ger *Lage, Stellung*

position habit = a stereotyped response of going toward a given locality [E g persistence in entering certain culs-de-sac of a maze, or a certain side of a discrimination box]

positive = 1 agreeing in some quality or character with a model or an original (e g positive after-image), 2 directed toward a stimulus or source of stimulation (e g positive tropism), 3 designating a real quantity greater than zero, 4 syn for **affirmative**, with an emotional setting [Contr w **negative**]

positive acceleration = the change from a slower to a more rapid rate of progress, e g in the early stages of the learning process

positive after-image, see **after-image/positive**

positive and negative cases/method of, see **right and wrong cases**

positive-negative movement, see **apparent (motion or) movement**

positive self-feeling = the attitude of self-assertion — Fr *sentiment positif de soi*

positive supporting reaction (or reflex) = a local static reflex, elicited by disturbance of equilibrium, which brings and holds the limb in position for a rigid support of the body [Depends in part on cutaneous stimuli of the sole and stretching of the deeper muscles (Rademaker) Mediated by proprioceptive arc in spinal cord Cf **negative supporting reaction, postural reflexes**] — Fr *reflexe coordonné d'attitude, reaction de soutien*

positive transference, see **transfer of training**

positive tropism, positive taxis = a simple orienting response, in which the organism turns toward an external source of stimulation [Contr w **negative tropism, negative taxis**]

positivism = the doctrine developed by Comte which limits knowledge to experience, and holds that problems of ultimate reality do not fall within the scope of science

possession = (*hist*) a term applied to insanity generally or to special forms, on the assumption that the patient is under the control of an evil spirit

possible = characterizing an assumption or hypothesis which is free from contradiction but for which there is, at the time, little affirmative evidence [Distg fr **probable** = having a preponderance of favorable evidence, fr the **improbable**, against which there is a preponderance of evidence, and fr **impossible** = which the evidence absolutely refutes All three are free from self-contradiction and are contr w **necessarily false possible** is the most common and is often used for any degree of probability] **possibility**[n] — Ger *moglich*

post-epileptic stupor = a condition of coma or vague consciousness following epileptic crises

posterior = pert to or located in a rear or hind-part position [Contr w **anterior**, the terms *dorsal* (contr w **ventral**) and *caudal* (contr w **cephalic**) are now generally prefd in anatomy as eliminating ambiguity as between upright and horizontal postures]

posterior pituitary extract, see **pituitary/solution of**

post-hypnotic suggestion = a suggestion given to an individual during hypnosis of some act which is to be carried out by him later in the waking state [During the carrying out of the post-hypnotic suggestion the subject may either apparently lapse back into the hypnotic state, with subsequent waking amnesia, or he may apparently remain fully awake, but be unconscious of the actual motive of his act, which he usually rationalizes]

post-natal = pert to the life of an organism after birth

post-rotation nystagmus, see **nystagmus**

postulate = a statement of some fundamental principle which is provisionally adopted, though crucial evidence of its truth is lacking [Syn **presupposition** Distg fr **hypothesis**, which embodies a conclusion rather than an underlying principle, and which is assumed to be susceptible of empirical proof or refutation Distg also fr **axiom** and **assumption**] **postulate**[v], **postulated**[a]

postural = pert to or tending to produce or maintain a **posture** (e g postural reflex) [Syn **positional, tonic** Contr w **kinetic, phasic**]

postural contraction = the contraction of the skeletal musculature produced by the postural reflexes [The state of contraction so produced was designated as **tonus** before the postural reflexes were discovered]

postural reflexes = the totality of the proprioceptive and exteroceptive reflexes which give the body its attitudes [Two groups are **static** (or stance) reflexes and **stato-kinetic** (or movement) reflexes]

posture = a general bodily attitude or position of the entire body, or of a segment of the body — Ger *Haltung, Stellung*

potency = 1 a latent or undeveloped power, 2 power of procreation, esp in the male **potential**[a], **potent**[a] (used rather as syn for **powerful**) — Fr *potentialité*, Ger (1) *Wirkungsvermogen*

potential[a] = pert to characteristics which are not present or manifest in an organism at the given moment, but may develop or appear later [Contr w **actual**] **potentiality**[n] = contr w **actuality**

potential[n] = degree of electrical charge [Cf **electromotive force**]

potential energy = the capacity for doing work which a body possesses, due to its position [Contr w **kinetic energy**]

power = 1 (*phys*) the rate of doing work [Units (1), erg per second, watt (= 1 joule per second), horse-power (746 watts)] — Ger (1) *Leistung*

power = 2 muscular strength, 3 degree of an individual's ability in a given field, measured by the difficulty of tasks which he can perform without regard to time, as in a power test, 4 (*hist*) syn for **(mental) faculty** [(3) is the opposite of the usage in physics, where power is rate of work] — Fr *pouvoir, puissance*, Ger (2) *Kraft*, (3) *Vermogen*

practical = 1 (*philos*) pert to social and ethical values and appreciative judgment, as contr w cognitive apprehension of facts and logical reasoning, 2 (*psychol*) manifested in practice, i e workable (e g a practical example) [Distg fr **practicable** = capable of being performed]

practice[n], **practise**[n] = 1 the repetition of an action as a means of improving the performance or as a means of habit formation, 2 a customary or habitual action [The second use is non-technical, syn **habit** prefd for this] — Fr *entraînement, pratique*, Ger *Übung*

practice curve = a graphic representation of certain aspects of the progress made in acquiring information or skill, during equivalent periods of time or units of practice [Syn **learning curve**] — Fr *courbe d'entraînement*, Ger *Übungskurve*

practice effect = the progressive improvement which may occur in the speed, quality, or type of a response, either during continuous practice or at periods following active practice — Fr *effet d'entraînement*, Ger *Übungswirkung*

practice limit = the highest degree of skill or ability attainable by practice in a given field or task [Syn **physiological limit** Cf **plateau**] — Fr *limite d'entraînement*, Ger *Übungsgrenze*

practice period = 1 a period of time of uniform duration devoted to practice and separated from preceding and succeeding periods by determined intervals, 2 a period devoted to preliminary rehearsal of experimental procedure, the results of which are not as a rule included in the final data — Fr *periode d'entraînement*

practice theory = a theory of the nature of play, which assumes that its function is to train the human child or young animal in the performance of certain fundamental activities that are important for his development — Fr *t d'entraînement*, Ger *Übungstheorie*

practise[v], **practice**[v] = to perform or attempt to perform a given act repeatedly, with a view to improvement [Distg fr **exercise**, which refers to the motor organs rather than to the act] — Fr *entraîner*, Ger *üben*

praecox, see **dementia praecox**

pragmatism = "the doctrine that the whole *meaning* of a conception expresses itself in practical consequences" (James) **pragmatic**[a]

Pragnanz = (*Gestalt*) a term proposed by Wertheimer to denote the most characteristic shape which a form or structure can assume, and towards which, according to Kohler, every form or structure tends [Cf **precision/law of**]

prayer = 1 (prayer of petition) an earnest request or supplication addressed to someone in a position of power or authority, esp to a deity, 2 (prayer of communion — *relig*) an intimate intercourse with a deity, in which the intellectual activity is at a minimum and the feelings, particularly the tender feelings, are dominant, 3 (*relig*) in a wider sense, petition, communion, together with thanksgiving and adoration **pray**[v] — Fr *priere*, Ger *Gebet*

Pray's letters = a test for astigmatism, consisting of capital letters composed of strokes which run in a different direction for each letter

praxinoscope, see **stroboscope**

precipitate[n] = (*psychoan*) a term applied to the material in the unconscious which is in readiness to act in determining any motivation process

precision = the degree of approximation to uniformity of observations or measurements dependent upon the constancy or variability of the underlying conditions [Syn **reliability**, but its so-called measure, P E, bears an inverse relation to the **measure of precision, h**] **precise**[a] — Ger *Prazision, Genauigkeit*

precision index, see **measure of precision**

precision/instruments of = measuring or recording instruments which are carefully constructed, so as to eliminate as far as possible every sort of variable error [Cf **instrumental error**]

precision/law of = (*Gestalt*) the most general law of organization, according to which organization occurs in such a way that its products, viz the whole field (perceptual, ideational, and behavioral) becomes as well articulated as possible [This law connects stability of organization with descriptive characteristics These characteristics are of two kinds *Nivellierung*, and *Prazisierung* In many cases, *Prazisierung* of one part of the whole takes place together with *Nivellierung* of the rest] — Fr *l de la precision*, Ger *Gesetz der Pragnanz*

precocity = a notably early development of mental or physical traits in a child **precocious**[a] — Ger *Fruhreife*

preconception = a notion or theory formulated before sufficient data are at hand to render it in any degree probable [Used generally to imply an initial bias which subsequent opposing evidence has failed to remove] **preconceive**[v], **preconceived**[a]

preconscious[n] = (*psychoan*) latent mental processes of which the individual is not aware at a given moment, but which it is possible for him to call to consciousness more or less readily [They are unconscious only in the descriptive sense, i e on the basis of the structure of the mental apparatus, and not in the dynamic sense Syn **foreconscious**] — Ger (*das*) *Vorbewusste*

precuneus, see **quadrate lobe**

predetermine = to formulate a result in advance of its empirical observation, on the basis of other (cognate) data or of authoritative pronouncement [Distg fr **predict**, which implies more conclusive evidence] **predetermination**[n]

predication = the formal association of one concept with another [The term is generally

limited to formal logic but is admissible in psychology, the associated concept is termed the *predicate*] **predicate**ⁿ, **predicative**ᵃ

prediction = a description of the result or outcome of certain processes, formulated or stated in advance of the outcome (or without observation of the outcome), the advance statement being based upon knowledge of certain general principles of nature [A **prediction** may be quantified according to its degree of probability Not to be confused with **predication**] **predict**ᵛ — Ger *Vorhersagung*

predisposing cause = a factor which is not rigorously necessary to the occurrence of a given effect but which, when present, either renders the effect more intense or may replace some factor or part of the usual causal pattern

predisposition = 1 a structure or condition in the body of an individual before birth, due to inheritance or pre-natal acquisition, which renders him likely to develop certain mental characteristics or certain diseases, 2 (*psychol*) a preparation or set which facilitates the adoption of certain specific lines of behavior or the acceptance of certain theories, views, etc rather than others [One is said to be **predisposed** to an emotional temperament, etc The term assumes that certain environmental conditions are needed to bring about the given result] — Ger (2) *Anlage*

pre-Edipal (or **pre-Oedipal**) **phase** = (*psychoan*) a phase of early development in which there is an exclusive attachment to the mother

pre-established harmony = (*hist*) a theory of the relation between mental and physical events, which assumes that they occur independently, i e without either affecting the other causally, but that they harmonize and constitute parallel series owing to some fundamental, original characteristic of reality [A phase of the more general theory which was originated by Leibnitz]

preference method = a method of research, used esp with subhuman organisms, which consists in presenting two stimuli that differ only in one character (i e in quality, or intensity, etc), and observing which one the animal responds to without previous training [By repeating the experiment with other combinations, a **preference scale** may be mapped out for the given class of stimuli]

preformation = the assumed existence of the various organs and parts of an organism, in rudimentary form, in the germ cell from which the organism is derived, development being regarded as a mere unfolding of what is already present in miniature [Cf **preformism**]

preformism = the hypothesis that in the differentiation of structure in the embryo all characters are produced by the unfolding of characters already present in the germ [Contr w **epigenesis**, which assumes that all differentiations are due to the action of the environment or to interaction of the parts of the embryo]

pregenital phase (of **sexuality**) = (*psychoan*) the organization of the sexual life of the child during the early infantile period, in which the genital zone has not yet assumed a dominating role During this phase, the genital component-instincts and the contrast between masculine and feminine have not yet developed This sexual organization assumes the form of (1) the oral stage, in which the sexual activity is not yet separated from the taking of nourishment, and (2) the **anal-sadistic stage**, in which sadism and anal erotism play the leading parts

pregnancy = the condition of a vertebrate female during the development of an embryo in the uterus **pregnant**ᵃ — Fr *grossesse, enceinte*ᵃ Ger *Schwangerschaft*

prehensile = adapted or fit to grasp objects, e g prehensile thumb — Ger *greifend, Greif-*

prehension = 1 the act of taking hold of a thing or grasping it, 2 the simple noting of facts or objects [**prehension** (1) implies a certain amount of adjustment, as in the human hand, the ape's foot, or the elephant's trunk, it is not used to describe biting with the teeth, etc Cf **prehensile** The immediate memory span has been called a **test of prehension** (Jacobs)] — Ger (1) *Ergreifen*

prejudice = an attitude, either for or against a certain unproved hypothesis, which prevents one from evaluating new evidence correctly [**prejudice** carries an emotional implication, the syn **bias**, strictly, lacks this element] — Ger *Vorurteil*

preliminary signal, see **warning signal**

premeditation = (*crim*) the planning of a crime beforehand [In law distg fr **unpremeditated crime**, due to passion or sudden impulse] **premeditated**ᵃ

premise, premiss = a proposition or judgment from which a conclusion is to be drawn [Cf **deduction**] — Ger *Voraussetzung*

premonition = 1 the thought or dread of a coming event, aroused by irrelevant experiences or by some very indirect cue or suggestion, 2 (*psych res*) a revelation of some future event ascribed to other than normal sources [(2) a form of **cryptesthesia** (1) distg fr **presentiment**, in which the forethought is attributed to the individual himself] — Ger *Vorahnung, Ahnung*

prenatal = pert to the organism before birth

prenubile = 1 pert to the period of life before puberty, 2 characterizing a condition of non-marriageability due to lack of development

pre-Oedipal phase, see **pre-Edipal phase**

preparation = 1 the growth and coordination of functions in an organism during the earliest period of life, regarded as a basis for the comparatively stable behavior of mature life, 2 the initial stages of a complex response, of an experiment, etc [Cf (2) **preparatory response**] — Ger *Vorübung, Vorbereitung*

preparatory interval = the duration of time in a response experiment between the (preliminary) warning signal and the moment when the actual stimulus is given

preparatory response (or **reaction**) = a response which occurs in the initial or intermediate stages of a behavior series, and which makes possible the final consummatory response

preparatory set = 1 a bodily attitude or posture which is assumed as the initial stage of a complex act of behavior, e g the attitude of listening, 2 a neural condition which increases the effectiveness of certain stimuli while decreasing that of others [Syn (1) **preparatory response**, which includes both posturing and acting] — Fr *ajustement préparatoire*

preperception = 1 the preparatory attitude (including any ideational experience) which

facilitates the integration of a clear or vivid perception, 2 a primary form of perception, or a sensory datum before it becomes perceptual, e g a film color which lacks surface and cannot be localized definitely, 3 (*exper psychol*) the anticipation of a perception by a thought, idea, or mental image before the sensory stimulus is actually presented to the subject or observer

prepossession = favorable bias or prejudice toward a theory, etc

prepotence = the power exhibited by certain reflexes to inhibit other reflex action, in the area in which they manifest themselves [Distg fr **prepotency** in which the idea of inhibition is replaced by the idea of relative frequency] — Fr *prévalence*, Ger *Vorherrschen*

prepotency = the characteristic of certain specific biological phenomena, such that they tend to prevail as compared with other possible phenomena

prepotent habit = a habit which is so well established that it tends to prevail over other, less well established habits [Used by analogy with Sherrington's **prepotent reflex**]

prepotent reflex = a reflex which takes precedence over another through **prepotence**

presbyopia = a condition of the eye characterized by ability to see distant objects clearly and inability to obtain a clear picture of nearby objects [Due to inelasticity of the lens, with consequent restriction of accommodation, which develops with advancing age (whence the name) Syn **far-sight (edness)** (ambig) Distg fr **hyperopia**] **presbyope**[n,p], **presbyopic**[a] — Fr *presbytie*, Ger *Weitsichtigkeit*

present/psychological = the amount of duration included in a single conscious experience [Syn **specious present**, a philosophical phrase] **present**[a] — Ger *Präsenzzeit* (Stern)

presentation = 1 any experience which is the immediate consequence of sensory (usually exteroceptive) stimulation, i e a sense perception, 2 the same as (1) plus revived experiences or images in which an object appears as in sense perception, 3 the mental operation by which such experiences (1 or 2) are brought about [Fairly equivalent to Ger *Vorstellung*] (**pres-**, not **pre-**) **presentative**[a] = pert to presentations, **presentational**[a] = pert to the study

presentationism, see **realism**

presentiment = an impression or feeling foreshadowing a future event esp a foreboding of calamity [Cf **cryptesthesia, premonition**] — Fr *pressentiment*, Ger *Vorahnung*

pressor nerve = an afferent nerve which stimulates a vasomotor center to heighten the blood pressure [Contr w **depressor nerve** (2)]

pressure = 1 (*phys*) the force exerted upon each unit area of a surface, 2 an impingement on the skin which deforms its outer surface and serves as stimulus for a specific sort of sensation called **pressure sensation**, 3 the specific sensation due to pressure (1) [Cf **pressure sensation.**] **pressury**[a] — Ger *Druck*

pressure/acoustic = the mean force per unit area exerted upon a surface by a succession of sound waves [A convenient unit is the dyne per square cm]

pressure balance = 1 an instrument for exerting measured pressure on the skin, consisting of levers which permit increase or decrease of pressure, instantaneously or gradually, the speed of change being determined by clockwork or by hydrostatic control, 2 an instrument for testing judgments of lifted weights — Ger *Druckwage*

pressure blower = an apparatus for supplying an air stream of uniform pressure to a pipe organ or other wind instrument, in order to insure constancy of pitch and intensity in the resulting sound waves [The essential feature of the blower is a tank, with adjustable top which rises if the air pressure increases and falls when it decreases, thus regulating the outgoing pressure within the limits of the apparatus] — Fr *soufflerie*

pressure gradient = the grade or inclination which results when adjoining areas of an elastic surface are subjected to unequal pressure [The transition from a region of greatest, to a state of least pressure may be slow or abrupt, but in any case is continuous rather than saltatory In psychology it usually refers to the gradient established when pressure is applied to a limited area of the skin]

pressure-pain pattern = perceptual experiences, such as thirst, which arise from various cutaneous or visceral stimulations — Fr *complexus de pression et douleur*

pressure pattern = a perceptual experience, such as smoothness and roughness, which arises from several simultaneous and successive pressure stimulations — Fr *complexus de pression*

pressure point = a slender blunted point of thermally non-conductive material, which serves as a stimulus for individual pressure spots — Ger *Druckpunkt*

pressure sensation = a touch sensation stimulated by an impression or impact of appreciable intensity [Distg fr **contact sensation**, in which the impact is less intense and involves practically no dermal deformation Cf **touch sensation**, a generic term which includes both] — Ger *Druckempfindung*

pressure spot = a locality or small area on the skin which has a lower threshold for pressure sensibility than the adjacent regions [Syn **touch spot**] — Fr *point de pression*

prestidigitation, -tor, see **conjure** (1)

prestige = a temporary reputation for social achievement which attaches to a given individual according to the general judgment of the members of the community [Distg fr **fame** = a reputation for achievement which outlasts the individual's life Cf **reputation**] (Accent **-teezh**)

presumption = 1 a conclusion incompletely proved but indicated as probable by the evidence at hand, 2 an attitude of arrogance [(1) is properly distg fr **assumption**, in which the conclusion is held merely in the absence of proof to the contrary, this distinction is often ignored] **presume**[v], **presumptive**[a]. — Ger (1) *Annahme*, (2) *Einbildung*

presupposition, see **postulate.**

pretend[v] = to imagine vividly a given situation as actually existing, and to act as though the imagined situation were real [Syn **make-believe**[v], **simulate, play**[v]] **pretence**[n], has an ethical implication absent in **make-believe**[n]

prevision = (*psych res*) supernormal awareness of future events [Cf **cryptesthesia**]

Preyer reflex, see **pinna reflex**

pride = a sentiment or emotion marked by high esteem for one's own ability or attainments, and characterized by a tendency to emotional elation [Distg fr **vanity**, which implies a marked desire for notice and praise, and **conceit** which implies excessive pride, often ill-founded] **proud**ᵃ — Fr *fierté, fier*ᵃ, Ger *Stolz*

primacy = the state or fact of being first, or of being in the first rank **prime**ᵃ = first in importance, **primal**ᵃ = first in time, **primary**, **primordial**ᵃ = first in logical or hierarchical rank, **primitive**ᵃ = characterizing the first stages of evolution or development — Fr *primauté*, Ger *Primat*, *Vorrang*

primacy/law of = a principle used to explain learning (e g memorization, maze-running) according to which earlier items of a series are more readily learned and are favored in recall [Cf **recency/law of**]

primal, see **primacy** — Ger *Ur-*

primal scene = (*psychoan*) a fragment of recollections or impressions retained from early childhood which constitute the prehistory of a neurosis (not forgotten, but latent and unconscious) and relate to early sexual experiences [E g observing seduction, parental intercourse, etc Cf **screen memory, infantile amnesia**] — Ger *Urszene*

primary = fundamental or first in logical or hierarchical rank [Often used for first in time for which **primal** is prefd Cf **primacy**] — Ger *primär*

primary attention, see **attention**.

primary color, see **color/primary**

primary function = the original nerve process which arouses in the mind an idea without the after-function which determines the course of subsequent associative activity (O Gross) [Contr w **secondary function**]

primary memory = 1 the manifestation of retention in the lowest organic species, 2 the persistence of impressions for a few seconds after their reception, i e the remembering of that which has occurred but a few seconds before [Syn (2) **memory after-images** (prefd)]

primary personality, see **personality/primary**

primary position = the position which the eyes assume when the head and body are erect and the eyes fixate an infinitely distant point in the median and horizontal planes

primary process = (*psychoan*) the underlying, unconscious mental mechanism which produces condensation and displacement [Contr w **secondary process** Cf **condensation, displacement**] — Ger *Primärvorgang*

primary qualities = (*hist*) those properties of an object, such as size and shape, which the object cannot be without, and which give rise to perceptions that directly resemble these (primary) qualities (Locke, 1690) [The primary qualities were supposed to be more fundamental than the **secondary qualities**, which are additional properties of an object that give rise indirectly to perceptions that do not resemble the property, such as warmth or cold, which are unlike physical heat]

Primates = an order of mammals which includes lemurs, monkeys, apes, and man [There are two sub-orders **Lemuroidea** and **Anthropoidea**]

primeᵃ = first in importance [Used technically as noun for **prime number** = one divisible only by itself or unity, also used to denote a stroke distinguishing symbolic letters b′ = *b prime* Cf **primacy**] — Ger *erst*

primeⁿ = the fundamental tone or first partial of a clang

primiparous = characterizing a female who has borne offspring only once (Accent **-mip-**)

primitive = 1 pert to the first or earliest stages of development or evolution, 2 (*anthrop*) characterizing peoples and cultures which do not possess true histories [Cf **primacy**]

primitive credulity = the earliest stage in the development of belief in the individual, characterized by uncritical acceptance of traditions, unsupported statements, and casual observations

primitive sheath, see **neurilemma**

primordial = first in logical or hierarchical rank [Frequently used to denote first position in time, etc Syn **primary** Cf **primacy**] — Ger *ursprünglich*

primordium = the embryonic basis of an organ or part [Syn **Anlage**]

principalᵃ = 1 most important, chief, or leading, 2 characteristic of data which constitute the chief points of reference in a system [E g (2) the principal colors red, yellow, green, and blue, when introspectively pure (1) is frequently confused with **principle**ⁿ]

principal focus = the point at which light-rays, entering parallel to the axis of a lens or lens-system, will come to a focus [There are two such points, according as the rays enter the system from one end or from the other]

principal plane = 1 a plane at right angles to the optical axis of a lens or lens-system, passing through a principal point, 2 in the case of double refraction, the plane which includes both refracted rays

principal point = the point on the optical axis at which refraction may be considered to take place, in computing the focal distances of a lens or lens-system [A single refracting surface has one, situated at the surface, a lens or lens-system has two, located according to the design of the system]

principleⁿ = 1 a more or less fundamental uniformity discovered in nature, 2 the formulation of that uniformity (i e a law), 3 a guiding maxim for conduct or canon for scientific procedure, 4 (*hist*) an active agent in nature [Strictly, **principle** is the uniformity, **law** is its verbal expression, **formulation** is the careful preparation of the statement, a **canon** is a working device, accepted on account of its general application, but not demonstrated in this particular case, e g (Lloyd) Morgan's canon] — Ger *Prinzip*

prior entry experiment, see **complication experiment**

prior entry/law of = a principle of attention formulated by Titchener as follows "The stimulus for which we are predisposed, requires less time than a like stimulus for which we are unprepared, to produce its full conscious effect", i e the object of attention comes to consciousness more quickly than the objects that we are not attending to [This law is illustrated in the **complication experiment**]

priority = a loose term signifying that which is earlier in time, or more important, or logically more fundamental [Cf **primacy**] **prior**ᵃ.

prism = (*opt*) a wedge-shaped piece of glass or other transparent material which by refraction bends the rays of light or radiant energy passing through it, the short waves being bent more than the long waves, the result in the case of mixed light is that the rays spread out and form a spectrum [prisms of comparatively low deflecting power are used with the trial-frame or worn as a spectacle-glass to offset a deviation of one eye from normal fixation]

prism degree = (*ophthal*) a unit of prism strength represented by a prism whose refracting surfaces make an angle of one degree [With the kind of glass commonly in use, this unit is only slightly different from the **centrad**]

prism diopter = a term indicating prism strength, measured by 100 times the tangent of the angle through which the prism deflects the light-rays [At low deflections the strength expressed in **prism diopters** is only slightly greater than that expressed in **centrads**]

private = 1 pert to a single individual, as contr w the **social group**, 2 personal or unofficial, as contr w **public** **privacy**[n] = seclusion

privation = (*psychoan*) removal of the possibility of satisfaction for the libido — Ger *Mangel, Entbehrung*

probability = 1 (*math*) the degree to which, under a given hypothesis, an empirical sampling of data may be expected to conform to the total distribution prescribed by that hypothesis, 2 (*psychol*) the feeling or judgment of credibility attaching to hypotheses or doubtful propositions, for which the supporting data are meager, and the contradictory of which is conceivable [Distg (1) fr **likelihood** = the degree to which the given hypothesis is confirmed by empirical data Cf **probability/theory of** **probability** (2) represents a rough scale of values, whose zero limit is **impossibility**, and which ascends through **bare possibility**, **high improbability**, etc to **certainty**] **probable**[a] — Ger *Wahrscheinlichkeit*

probability/curve of = a graph representing the numerical distribution of the values of a series of events, measures, or scores, the occurrence of which is (or behaves as though) governed solely by the laws of chance or probability [According to the **theory of probability** the results group about a central value, this value appearing most frequently, the number of cases decreases for each value as the distance from the central value increases The relation is expressed by a formula $y = (N/\sigma[2\pi]^{\frac{1}{2}})\ e^{(-x^2/2\sigma^2)}$ (called **probability function** or **normal curve**) which gives a bell-shaped curve when plotted graphically]

probability integral = the integral of the function whose graph is the **normal curve of distribution**

probability ratio = the fraction obtained by dividing the number of ways which would result in the occurrence of a given event by the total number of possible ways (assumed equally probable) in which the event may occur [It is assumed that the number of actual occurrences in a sequence of trials divided by the number of trials approximates this ratio]

probability/theory of = the mathematical treatment of **probability** based upon certain specific assumptions regarding the uniformity of nature, mutual compensation of incidental factors, etc

probable error = a measure of reliability (or stability) calculated for some obtained measure (e g average, score, coefficient of correlation, etc) which indicates within what limits the value of the obtained quantity will lie as often as it does not [The **probable error** measures the amount of fluctuation resulting from sampling, it is 0 6744898 times the **standard error** Abbrev **p e** or **P E** Syn **probable deviation**] — Fr *e probable*, Ger *wahrscheinlicher Fehler*

problem = the formulation of a situation in which certain elements, factors, or conditions are known and others are unknown, the suggestion or implication being to discover the unknown elements, factors, or conditions [Applied to scientific investigation in any field Cf **Aufgabe** Where the problem involves actual construction of any sort (e g drawing lines) rather than discovery, it is more properly called a **task**]

problem box = a box with a more or less intricate set of fastenings, which the human individual is directed to open, or which the subhuman creature must open in order to obtain food, mate, liberty, etc [Cf **puzzle-box experiment**] — Fr *boîte avec mécanismes cachés*

problem-solving = a form of experiment in which a situation of some kind is presented (to an individual or animal) which requires an intricate series of actions or of thought processes for the attainment of a specific goal [Used in the study of certain forms of learning, insight, and thought Cf **problem box**] — Fr *épreuve de problèmes à résoudre*

problematic = of uncertain or doubtful validity [First used to characterize any sort of open question] — Ger *zweifelhaft*

procedure = the manner of arranging and carrying out a research, esp in scientific investigation [In an experiment, **procedure** refers to both experimenter and observer (or subject), and denotes the exact routine or sequence of conditions and tasks throughout Cf **method**] — Fr *technique expérimentale*, Ger *Verfahren*

procedure with knowledge = a type of experimental procedure in which the observer is informed beforehand of essential conditions of the problem, i e what to expect [Contr with **procedure without knowledge,** in which certain significant features are concealed from the observer] — Fr *technique comportant connaissance préalable*

process = 1 a change or a transformation of activity in any object or organism, as contr w the constitution or structure of that object or organism, 2 the manner in which a change is effected, 3 any sensation or other content observed as a mere occurrence without reference to its meaning or value (Titchener), 4 (*anat*) a projecting part of an organ [(1) and (2) usually imply a progressive action or series of actions, events, motions, or occurrences leading to some specific result Syn (2) **function**] — Fr *processus*, Ger (1, 2) *Vorgang, Prozess*, (4) *Fortsatz*

process attitude = the attitude in which the observer gives attention to the processes (sensations, images, etc) which the stimulus arouses [Contr w **object attitude**]

process/mental = a process (1, 2 or 3) which occurs among mental phenomena [Syn **process of consciousness** = (strictly) the mode of such change In structural psychology the mental process became the **mental element** and was often used without the implication of change]

process of consciousness = a directly observable elementary experience with emphasis on its

temporal character, its rise, poise, and fall [One of the existential data revealed in a longitudinal section of consciousness Syn **process/mental**]

procreation = the process of engendering a new organism [Distg fr **fertilization** or **impregnation**, which applies to the effect upon the female] **procreate**^v (syn **beget**)

prodigy = 1 an individual who manifests supernormal mental ability, either special or general, particularly in early childhood (e g infant prodigy), 2 (*hist*) a monster or monstrosity, i e a creature which varies excessively from the anatomical type of the species — Fr *prodige*, Ger (1) *Wunder*, (2) *Monstrum*

prodigy/mathematical = an individual who possesses in extraordinary degree the ability to perform arithmetical calculations — Fr *grand calculateur*

prodrome = 1 (*med*) a preliminary symptom or sign of a disease, 2 a conscious event or meaning which is not tied to the ideas that evoke it, and which has not yet issued in definitely recalled concepts [Contr w **aura** (2)] **prodromata**^pl

product moment = (*statist*) usually the average of the products of paired measures [Cf **moment.** If the paired measures are deviations from means it is **covariance**]

product moment coefficient of correlation = the coefficient of correlation between two variables calculated (from arbitrary origins) by the formula $\left(\frac{\Sigma x'y'}{n} - C_xC_y\right)/\sigma_x\sigma_y$ or (where x and y deviations are taken from means) $\Sigma(xy)/N\sigma_x\sigma_y$ — Fr *coefficient de corrélation des produits-moments*

Produktionsvorgang = an intellectual activity or process by which, according to Meinong and his followers, sensations are united to form complex spatial and temporal patterns and relations [Contr w **purely sensational processes** Ger signifying **production process** Cf **founding process**]

profane^v = 1 to treat with abuse, irreverence, or contempt, 2 to put to a non-approved or unworthy use, esp as regards objects connected with the worship of a deity [Cf **sacred**] **profane**^a — Ger (1) *profanieren*, (2) *entweihen*

profession = 1 an occupation which involves a specialized education, embracing many intellectual elements, as contr w manual labor, however skilled, 2 a declaration of one's views [(2) often used to denote an insincere declaration, a pretense] (1) **professional**^a, (2) **profess**^v, (2) **professed**^a

proficiencies = capacities for response of simple or complex type, mental or motor, which have been learned by an individual to the point where they may be carried out by him promptly and accurately [Syn **skills**] — Fr *habiletés*

proficiency = degree of acquired knowledge, skill, or ability in industrial operations, school subjects, etc [Distg fr **capacity** or **aptitude**, which is present in advance of specialized practice] — Fr *progrès, avancement*, Ger *Fertigkeit*

profile/psychic (or **mental**, or **psychological**) = a schematic outline of the characteristic mental traits of an individual in so far as they can be determined quantitatively and presented in graphic form [Syn **psychograph** (1)]

profile test = a kind of test series in which the testee's scores on the individual subtests, though treated independently, are exhibited in relation to one another (usually graphically) so as to produce a **psychic** (or **psychological**) **profile** or **psychograph** [E g **Rossolimo method**, **Downey will-temperament test**, **Seashore music test** Distg fr **feature profile test**] — Fr *t de profil mental*

prognathous = designating a type of human skull in which the upper jaw protrudes beyond the forehead [Contr w **orthognathous**] (Accent **prog-**) **prognathism**^n

prognosis = 1 an opinion or judgment concerning the duration, course, and termination of a disease or pathological condition, 2 the foretelling of an event **prognoses**^pl — Fr *prévision*, Ger *Prognose*

program, programme = a prearranged plan for carrying out an investigation or other task

progress = 1 motion or movement in a given direction, 2 change in structure or organization (biological, social, etc) which brings about an increase in fitness, or a general advancement toward some preconceived and meliorist goal [Contr w **regression**] (Accent **prog-** or **pro-**) **progressive**^a, **progress**^v (accent **-gress**) — Ger *Fortschritt*

progression = 1 the act of advancing or improving, 2 (*math*) a sequence of terms each of which bears a constant relation to the one just preceding [In an **arithmetical progression** each term is derived from the preceding by adding (e g greater by 2), in a **geometrical progression** by multiplication (e g 3 times greater)]

progression/law of = a formulation devised by J R L Delboeuf as a partial substitute for Weber's law, it states that successive sensation-increments increase by arithmetical progression when the corresponding stimulus-increments increase by geometrical progression [Cf **degradation/law of**, and **tension/law of**] — Fr *l de progression*

progressive relaxation, see **relaxation/progressive**

project^n = a course of study or scientific research within a somewhat vaguely defined field set forth as a prospective undertaking [The final goal may or may not be definitely foreseen Cf **project method**] (Accent **proj-** or **pro-**)

project method = 1 (*hist*) a method which made use of practical activities in the home or on the farm, such as baking bread or raising corn, to supplement the work of the school, 2 more generally, a method which organizes the academic work of the school about complex activities or enterprises, such as planning and organizing a school circus, or making a school garden

projection = 1 (*general*) the jutting out (or extension) of something beyond a given mass or body, 2 (*psychol*) the reference or localization of sensations to the source or place of origin of the stimulus (e g hunger to the stomach, touch sensation to the skin, sound to a point in space), esp the localization of perceptions beyond the observer's body, 3 (*soc*) the ascription by an individual to other persons of experiences similar to his own, 4 (*psychoan*) the tendency or act of ascribing to the external world repressed mental processes which are not recognized as being of personal origin, as a result of which the content of these processes is experienced as an outer perception (e g the mechanism of delusions of persecution), 5 (*math*) the defining of a figure on a surface according to some rule, from

points composing some object in another plane (e g the shadow of an object thrown by a single source of light upon a wall) [Syn (4) **projection mechanism**] project^v (accent -ject)

projection center = an area or region in the cerebral cortex which connects directly with some definite sensory or motor center or tract, in the basal ganglia or cord

projection/optical = 1 the formation of an image of a given object by means of an optical instrument, esp when the image falls outside the instrument, as with a stereopticon, 2 localization in space as optically projected from points or areas on the retina by the refractive apparatus of the eye

projection/visual = the total process by which activities within restricted portions of the nervous apparatus of the visual organs of the observer may, in conscious experience, be correspondingly localized in space [Distg fr **projection/optical**]

prolegomena = a somewhat lengthy and formal introduction to a scholarly work or to a subject of study **prolegomenon**$^{n\,sg}$ (rare)

proliferation = the multiplication of cells in the body of the organism [Applied in neurology to the multiplication of nerve cells, in pathology, applied to cysts and other growths]

promiscuity = practice of copulation with many partners

prompting/method of = a memory method in which the degree or rate of learning is measured by the number of times the observer must be prompted before the content can be reproduced perfectly (Ebbinghaus) — Ger *Hilfenmethode*

pronation = a movement of the hand or forelimb, usually rotary, which tends to bring the palmar surface downward [It may occur in the act of writing and in fencing Contr w **supination**]

pronunciation = the act of producing vowels and consonants in formal combinations

proof = evidence (either facts or generalizations), brought to one's notice by another or by observation and thinking, which is sufficient to produce conviction or belief [The presentation of proof is called **demonstration** proof is classed as **deductive** = from premises or judgments already accepted, and **inductive** = from empirical accumulation of new facts, inducing conviction, it is contr w **authority**, in which the basis of acceptance is the promulgator's general credibility] prove^v — Fr *épreuve*, Ger *Beweis*, *Probe*

proof-reader's illusion = an illusion of visual perception which consists in the overlooking of a typographical error, due to the vivid memory image of a familiar word which is aroused by the printed form and supplants the perception of the letters as actually seen [So called because of its frequent occurrence in proof-reading] — Fr *illusion du correcteur d'épreuves*

propaedeutic, propedeutic = a preliminary study which serves as an introduction to some higher branch of learning **prop(a)edeutic**^{a}.

propaganda = organized publicity used as a means of influencing attitudes

propagate = 1 to reproduce, 2 to cause the spread or multiplication of an organism (as when a gardener propagates plants by cuttings)

propagated disturbance, see **nerve impulse**, and **wave of excitation**

propagation = syn for transmission or conduction of an impulse along a nerve or neural pathway

propensity, propension = a strong tendency toward some given action or mode of behavior, whether due to inheritance or to habit

property = 1 (*psychol*) an intrinsic character or attribute of a conscious experience, 2 an attribute or quality of an object, which always characterizes it but does not enter into the definition of it [Syn (1) **character, attribute** (both preferable)] — Fr *propriété*, Ger *Eigenschaft*

prophecy formula = (*statist*) any formula (usually a regression equation) employed for estimating the scores to be expected on some future measurement — Fr *formule de prédiction*

prophylaxis = systematic preventive measures against disease **prophylactic**^{a}

proportion = 1 (*math*) the ratio of one number to another or of the magnitude of one portion of an object to another, ordinarily the ratio of a part to the whole also the equality of two ratios, 2 (*esth*) the esthetically pleasing or agreeable relation of parts in a total presentation [Cf (1) **percent**] **proportional**^{a} = pert to proportion, **proportionate**^{a} = in a certain proportion, or in proper proportion

propose = to formulate, verbally or in thought, some specific action or procedure, with a view to actually carrying it out

proposition = the verbal or other symbolic equivalent of a judgment **propositional**^{a}

propriety = fitness of an act or mode of conduct in a given situation as judged by prevailing standards of morals, social or professional etiquette, or scientific procedure [Usually limited to minor conventions Contr w **impropriety** = unfitness, implying a minor lapse] **proper**^{a} — Fr *convenance*, *convenable*^{a}, *appropriation*, *approprié*^{a}, *comme il faut*^{a}, Ger *Schicklichkeit*, *Anstand*

proprioceptive reflex = a deep or tendon reflex depending on a simple spinal arc stimulated through proprioceptors [Cf **monomuscular reflex, myotatic reflex**]

proprioceptive system = the sensory mechanisms concerned chiefly in the automatic maintenance of muscular adjustments or posture, consisting of receptors in muscles, tendons, joints, and the vestibule of the inner ear, stimulated mechanically by gravity or movements of media in which the receptors are embedded

proprioceptor = a receptor or sense organ which is (generally) located in muscles, tendons, tendon sheaths, and joints, and whose stimuli result from movement of the body or its parts [Sometimes extended in meaning to include the receptors in the non-auditory labyrinth of the internal ear In general, **proprioceptors** are associated with supporting tissues of mesodermal origin [Distg fr **exteroceptor** and **interoceptor** Cf **receptor, nociceptor**] **proprioceptive**^{a}

pro-secretin = a term applied by Bayliss and Starling to an inactive substance in the duodenal mucous membrane which becomes an active hormone when acted upon by an acid, the later product being termed **secretin**

prosencephalon = that part of the vertebrate brain which is embryologically derived from the anterior portion of the primary forebrain vesicle and includes the cerebrum, striata, and olfactory lobes

prosody = that branch of grammar which deals with the laws of verse and poetry generally, considered in relation to its rhythmical form and characteristics **prosodic**[a].

prosopopesis = (*psych res*) the personation of a discarnate personality by means of a meta-psychic collection of the characteristics of that person from the memories of the living [**spontaneous prosopopesis** implies a degree of **cryptesthesia** and is distg fr **induced prosopopesis, or mythomania,** which is a recognized normal trance phenomenon] **prosopopetic(al)**[a].

prospection, prospective reference = the reference of a present thought to some future situation, i e the assumption that the thought corresponds to a situation which will arise in future time

prostitution = the practicing of promiscuous sexual intercourse (generally by a woman) for financial remuneration [Technically limited to the habitual practice as a profession or means of livelihood] **prostitute**[n p]

prostration = a loose term signifying the onset of extreme exhaustion, due to disease or shock [It includes 3 types **muscular, nervous, general**]

protanomalous = characterizing color vision which differs from the normal chiefly in the diminished effectiveness of low-frequency radiations, as indicated by the altered proportions of red and green in the Rayleigh equation [An inadequately investigated type, resting on 3-color theory concepts Cf **deuteranomalous**]

protanopia = a type of partial color blindness, or **dichromatism,** in which the spectrum is darkened at the red end, and the Purkinje phenomenon occurs in daylight [von Kries's term, signifying the loss of the "first" ("protos") color process of the three-component theory, hence **red blindness** Now usually identified as a variant of red-green blindness Distg fr **deuteranopia** and **tritanopia**] **protanopic**[a], **protanope**[n p]

protective resemblance, protective coloring = the resemblance of an organism in form or color to some part of its natural environment, resulting in a tendency toward concealment from its enemies or its prey [Contr w **aggressive resemblance,** which enables a creature to attack its prey more readily (a rare term)] — Fr *ressemblance protectrice*, Ger *Schutzfärbung*

protensity = the temporal characteristic or attribute of mental phenomena, i e the stretching forward in time, temporality [Syn **duration** Strictly, **protensity** = the characteristic, **duration** = any specific instance, cf **extensity** and **extent**] **protensive**[a], **protend**[v]

protista = unicellular organisms, whether plants or animals [Used by Haeckel to designate an assumed type of low organism consisting of protoplasm without a nucleus]

protocol = the original record of the results of an experiment or research [Usually (and properly) limited to a record made during the progress or immediately upon the conclusion of the experiment Cf **document**]

proto-esthesia, protesthesis = the assumed primitive form of sensory experience

proton = 1 (*biol*) the primitive rudiment or incipient form of an organ or part, in the evolution of organisms along any direct line, 2 (*phys*) the elementary unit of positive electricity [Contr (2) w **electron**]

protopathetic emotion = the earliest type of emotional reaction that appears in the child, assumed to be characterized by bare unpleasantness [Not to be confused w **protopathic**]

protopathic sensibility = a system of sensibility by which only painfully intense stimulations of pressure, cold, and heat are appreciated in the viscera, and on cutaneous surfaces where the more finely discriminating **epicritic sensibility** is lacking (Head) [Contr w **epicritic sensibility**]

protopathy = (rare) primary and direct emotional experience, distg fr **sympathy.**

protophyta = unicellular plants

protoplasm = living substance, consisting of **karyoplasm** (or **nucleoplasm**) and **cytoplasm** [Sometimes erroneously confused with the substance of a cell outside the nucleus]

prototype = the primitive or earliest form of organ or organism in a given line of evolution [Extended, by analogy, to earliest forms of response-pattern, etc] — Ger *Urbild*

protoveratrum = the active principle of *Veratrum viride* and *Veratrum album*, which acts locally as an irritant and, on absorption, as a stimulant of the cardio-inhibitory center in the medulla

protozoa = the phylum of unicellular animals [Distg fr **protophyta** = unicellular plants, and contr w **metazoa** = many-celled animals The term is plural] **protozoon**[sing] (rare), **protozoan**[sing], **protozoan**[a].

proverb test = a type of test in which the task is to restate in everyday language the meaning of a proverb [The response may be given orally or by checking the correct one of several statements given]

provisional = adopted or accepted temporarily, with expectation of future amendment or refinement — Fr *provisoire*, Ger *vorläufig*

proximal = nearer (or in the direction of) the point of reference or the point of attachment of a whole member [Contr w **distal** = farther away from such point of reference or attachment] **proximad**[adv]

proximate = near or nearest to some object, phenomenon, or event which is under discussion

proximoceptor, see **contiguous receptor**

prudery, prudishness = the display of an exaggerated or fastidious regard for the moral code [Usually applied to oversensitiveness of an individual to minor infractions by others, esp in matters of conventional sexual behavior] **prudish**[a], **prude**[n p]

pseudesthesia, pseudaesthesia = an illusion of sensation, esp of the localization of the source of cutaneous sensation [Applied specifically to the localization of pain or irritation in the fingers or some other part of an amputated limb] **pseudesthesic**[a]

pseudochromesthesia, pseudochrom(a)esthesis = the arousal of a color sensation or impression by a tone [Syn **color-hearing, synesthesia** (a generic term)]

pseudoclonus = a response which simulates the typical ankle clonus but in which the rhythmic contractions soon subside [Noted in exhaustion, toxic states, and hysteria]

pseudodementia = an extreme condition of general apathy resembling dementia, but without defect of intelligence

pseudologia fantastica = an obsessive-compulsive

or constitutional tendency to make false statements

pseudomemory = a false memory of an experience that never actually occurred [Allied to **déjà vu,** and **pseudo-presentiment,** frequent in dreams Syn **paramnesia,** as pathol type, **pseudomnesia**] — Fr *faux souvenir pseudo-memoire paramnesie*

pseudomnesia = a pathological condition in which the patient seems to remember events which he has not actually experienced [Cf **paramnesia, pseudomemory**]

pseudomyopia = a condition, due to lowered visual acuity, in which the patient holds objects nearer to the eyes than in normal vision, simulating myopia

pseudonystagmus = a term sometimes applied to nystagmus like movements of the eyes, possibly voluntary in character [Cf **nystagmus**]

pseudoparalysis = apparent loss of muscular power, similar to paralysis, without actual paralysis

pseudoparesis = a condition which simulates the symptoms of **paresis** without evidence of the syphilitic nature of the process

pseudoperception, see **hallucination**

pseudophone = an instrument for studying sound localization by means of the illusions produced when the natural condition of the ears is changed [S P Thompson's pseudophone consisted of a pair of ear-flaps, or reflectors which could be directed to the front, back, above, below, etc, producing illusions of auditory direction P T Young's pseudophone interchanged acoustically the position of the ears by passing sound-proof tubes over the head to receiving-trumpets located on the opposite sides, it produced a right-left reversal of auditory space Cf **pseudoscope**]

pseudopod, pseudopodium = a projection formed by the temporary flowing of the protoplasm of certain unicellular animals in one direction, thus effecting locomotion of the animal **pseudopodia**[pl]

pseudopresentiment = an "instantaneous and irresistible hallucination of memory which makes it seem to one that something which now excites or astonishes him has been prefigured in a recent dream, or in the form of some other warning" (Royce), although this supposition is wholly unfounded [Allied to **déjà vu** Cf **pseudomnesia**]

pseudopsychology = any system, doctrine, or exposition which purports to be psychology or to represent a psychological point of view, but which embodies or involves principles, postulates, or procedures that are in conflict with the best established principles of psychology [Often carries an emotional tinge]

pseudoscope = an instrument which, by means of prisms or mirrors, transposes the optical images of an object or stereogram as they are normally brought to the two eyes, thus reversing the relief [An intaglio appears as a bas-relief and a solid object seems hollow The effect may be produced by interchanging the separate photographs or diagrams on a stereogram Wheatstone obtained the effect by introducing a right-angle prism before each eye, with the hypotenuses parallel to the median plane Cf **pseudophone**]

psittacism = argument based on the verbal form of propositions without regard for the relations of the concepts involved [Lat *psittacus* = a parrot Cf **dialectic**]

psychanalysis, see **psychoanalysis.**

psychasthenia = a type of neurosis characterized by morbid anxiety, fixed ideas, etc [Janet's term for the large group of obsessive disorders, syn **obsessive ruminative tension states** (A Meyer) Often uncritically used as contr to **neurasthenia,** or euphemistically for **anxiety psychosis** Syn **obsessive doubt**] **psychasthenic**[a]

psychasthenics, see **psychoasthenics**

psyche = 1 the principle of life, 2 the principle (specifically) of mental life, 3 mental life itself, including both conscious and unconscious processes [Used as a substitute for **mind** or the last term **soul** by recent psychoanalytic writers]

psychergograph = an apparatus for measuring serial responses, which provides a fixed number of stimuli that are presented in chance order and are given continuously until the subject becomes fatigued, and which records the time and accuracy of all individual responses, responding correctly to one stimulus causes the next stimulus to appear [Employed in continuous discrimination reaction experiments Syn **serial discrimeter**]

psychiatrist = a specialist in the investigation and treatment of mental disorders, including the psychopathological and general medical aspects of the conditions [Syn **alienist** = a specialist in the determination of legally committable insanity] (Accent **-ky-**)

psychiatry = a specialized discipline which deals with mental disorders (Accent **-ky-**) **psychiatric**[a] (accent **-at-**) — Ger *Psychiatrie*

psychic(al)[a] = 1 syn for **mental,** emphasizing the higher phases of mind, 2 pert to the **psyche** [Often confused with **psychological.** The term **psychic** is generally used in sense (1), e g psychic blindness, both **psychic** and **psychical** are used in sense (2), e g psychical research, psychic forces] — Ger *seelisch*

psychic[n] = (*pop*) an individual possessed of extraordinary or mysterious mental powers [Cf **medium** (2)]

psychic blindness (deafness, etc) = inability to see (hear, etc) due to some impairment of the cerebral cortex, the receptor being normal [Properly limited to psychogenic (hysterical) inabilities to see (hear, etc) Distg fr **mind blindness** = a condition in which one can see, but cannot understand or interpret (apperceive) what is seen] — Fr *cecite psychique,* (*surdité p*), Ger *Seelenblindheit,* (*-taubheit*)

psychic determinism = the theory (in psychoanalysis) that mental processes are not only causally related (as in the association theory) but are motivated through factors in the unconscious (complexes, wishes) [E g , a supposedly fortuitous idea or number, 34718, is not aroused accidentally but is fully determined by latent, dynamically operative motives]

psychic (or psychical) distance = (*esth*) the degree of detachment assumed by an individual towards the practical appeal of an object, esp a work of art

psychic force = (*hist*) a term applied to the supposed cause of telekinetic phenomena, on the hypothesis that the unknown physical force ex-

erted upon objects in a séance is intelligent (Cox and Wm Crookes)

psychic profile, see **profile/psychic,** and **psychograph** (1)

psychic science, see **psychical research**

psychical communism = a similarity in the constitution and processes of human minds, arising from a common nurture and training, which results in agreement among the individual experiences, cognitions, associations, inferences, inductions, sentiments, feelings, conations, etc in response to the same stimulus or situation [This phenomenon appears in guessing and in the events of daily life and results in striking coincidences which are (*pop*) regarded as evidence for telepathy Syn **associative community** or **community of ideas**]

psychic(al) research = the systematic investigation of various borderline or debatable phenomena concerning the relation of body and mind [The topics generally included are **telepathy** and **telekinesis, spiritism** (i e communication with the dead), and **veridical premonitions** Distg fr **psychological research** in that its typical phenomena are attributed to unknown causes of a supernormal or a supernatural (occult) nature Syn **metapsychics** (prefd), **parapsychology,** these avoid ambiguity in use of terms **psychic** and **psychical**] **psychist**[np]

psychical segregation = the disintegration or breaking up of mental processes or mental structure into constituent parts and the separation of these parts from one another [A reversal of the normal integrative processes]

psychism, see **metapsychics**

psychoanalysis, psychanalysis = a dynamic system of psychology originated and developed by S Freud, which attributes behavior to repressed factors in the unconscious, for the investigation of which it has developed an elaborate technique, utilized esp in the treatment of nervous and mental disorders or personality flaws, as well as in the interpretation of a variety of cultural phenomena [Cf **depth psychology**] **psychoanalytic**[a], **psychoanalyze**[v] (or -lyse[v]), **psychoanalyst**[np].

psychoasthenics = the investigation of feeblemindedness

psychobiology = 1 the field of biology which deals with the nervous system, receptors, effectors, and other topics germane to psychology, 2 psychology as investigated by biological methods [Syn (1) **biopsychology** (prefd)] **psychobiological**[a]

psychodiagnostics = the study of personality by the aid of external manifestations (physiognomy, gait, voice inflection, gesture, posture, handwriting, etc)

psychodometer = 1 a response-time measuring device of the mechanical type devised by Obersteiner and Exner, in which a 100 d v tuning fork writes upon a moving strip of smoked glass, the sound of the fork constitutes the stimulus, and the observer reacts by raising the fork from the glass, 2 a name recently applied to the **Dunlap chronoscope** and accessories [Cf **Dunlap chronoscope**]

psychodynamics = the branch which investigates the changes and development of mental processes [Contr w **psychostatics** = the investigation of mental elements or content]

psychogalvanic reflex, P G R , see **galvanic skin response**

psychogalvanometer = a term applied to any electric circuit employed in the measurement of the galvanic skin response

psychogenesis = 1 the origin and development of mind and mental phenomena, 2 the theory of mental growth, 3 the mental origin and development of any peculiarity of behavior, e g the psychogenesis of hysteria **psychogenetic**[a].

psychogenic disorders = conduct disorders which are not attributed to physiological changes, and in which mental conflicts, suggestions, preoccupations, appear as underlying causes, e g hysteria

psychognosis = 1 the study of mental processes by means of hypnosis or hypnoidal states (Sidis) 2 the reading of character from anatomical signs (Dessoir, 1912) **psychognostic**[a] — Ger *Psychognostik*

psychogram, see **psychograph.**

psychograph = 1 a chart used by personality investigators to indicate an individual's measure in the fundamental personality traits, these traits being placed at equal distances, either in a row along the abscissa, or in a column along the ordinate axis, the values obtained for each being marked at the appropriate point on the other axis, the chart is completed by connecting these points by lines so as to form a **psychic** (or **trait**) **profile,** 2 a descriptive account of an individual's mental functions (i e attention, memory, perception, etc) treated differentially and functionally (W Stern), 3 a biographical sketch written from a psychological standpoint (Ostwald), 4 (loosely) a record in literary form of an individual's traits and responsive behavior, as revealed by a series of laboratory experiments and tests (Toulouse, Binet) [Syn (1) **psychic** (or **mental**) **profile, psychogram** (rarely used, but prefd for (1))] **psychographic**[a]

psychography = 1 (*psych res*) writing without the operation of the medium's muscles (e g slate-writing), 2 (*psychol*) the method of charting the traits of individuals by means of the **psychograph**

psychoid = a special form of entelechy (autonomous, non-mechanical activity), namely that which displays itself in the actions of a human body (Driesch)

psychological[a] = pert to psychology [The form **psychologic** is not used Often confused w **mental** or **psychical** = pert to the mind and its phenomena]

psychological automatism, see **automatism**

psychological color solid, see **color solid/psychological**

psychological present, see **present/psychological**

psychological time, see **time/psychological**

psychological zero, see **zero/physiological**

psychologism = 1 the view that psychology is the basis of philosophy and of the sciences concerned with mankind (i e art, social customs, language, politics, religion, etc), 2 the view that the principles of the normative sciences (logic, ethics, esthetics) are subjective and empirical in origin, 3 the view that psychology is the basis of all science [Contr (2) w **logicism** Syn (3) **subjectivism**]

psychologist = one versed in the facts, theories, procedures and practical applications of psychology

psychologist's fallacy = an error of method and

interpretation which consists in attributing to a mental process all the characteristics which seem to the psychologist to be logically necessary from his knowledge of the relations of the process, the psychologist thus confusing his own knowledge about the process with the subject's direct experience during the process [A common instance is the attributing of a human mental process to an animal] — Fr *sophisme des psychologues*

psychology = 1 the branch of science which investigates mental phenomena or mental operations 2 the science concerned with the mutual interrelations of organism and environment through transmission of energy (i e stimulation, response), as distg fr interchange of substance, 3 the systematic investigation of the behavior of organisms, 4 the science of the self or personal individual [The term has been given many different definitions, representing various views of the field covered by the science and methods employed in investigation The definitions above typify, in a general way, the different uses, past and present, though in many cases some extension or qualification is needed — (1) is the earlier use, it covers several different concepts the activity of mind (mental operations or *functions*) is emphasized by Aristotle and his followers, including the scholastics, and later by the faculty psychologists, while mental phenomena (the *data* of conscious experience) are the subject matter of the association psychology These two paths have been followed in recent times the former by act psychology (Brentano), which deals with the activities or operations of consciousness, and the latter by structural psychology (Wundt), which studies mental phenomena American functional psychology occupies an intermediate position, since it considers the function of mental phenomena for the use of the organism, and both structural and functional psychology have accepted a physiological (more specifically a neurological) basis or correlate of consciousness, a factor which was considered only incidentally in the historic treatment of the field The teleological or hormic psychology recognizes in addition the principle that mental events have a purposive implication The Gestalt psychology emphasizes total organizations of both structure and function — (2) is a different concept, which applies to several contemporary treatments of psychology the motor psychologists consider that (motor) responses determine the characteristics of consciousness, investigators who emphasize the evolutionary standpoint consider adjustment the significant characteristic of response — (3) is adopted by the behavior psychologists, either without qualification (i e so as to exclude conscious phenomena from the scope of the science), or with some extension which admits the validity of these phenomena — (4) emphasizes the unitary character of the organism and the substantiality of the self — The term was first used in lectures by Melanchthon (ca 1550), and in print by Goclen (ca 1600) Hist divided into **rational** = the investigation of mental processes by the use of logic and *a priori* assumptions, and **empirical** = the investigation by observation and experiment The divisions proposed by contemporary writers into human, animal, pathological, physiological, etc represent branches rather than methods of investigation Cf **abnormal psychology, animal psychology, child psychology, dynamic psychology, genetic psychology, industrial psychology, social psychology** — The practical applications of psychology are to be distinguished from the investigations of the facts, principles, etc involved (art vs science) Cf **applied psychology, psychoanalysis** In pop use the term *psychology* is often confused with *mentality*, e g psychology (meaning mentality) of the student, of the business man, of the crowd, etc] **psychologic (al)**[a] = pert to the science, **psychologist**[n p] — Fr *psychologie*, Ger *Psychologie*

psychology/abnormal (animal, etc), see **abnormal (animal, etc) psychology**

psychology/new = a vague term, used at various epochs to designate a recently introduced method of psychological research [Applied in the late 19th century to experimental psychology and to hypnotism, more recently to psychoanalysis and to Gestalt psychology]

psychometric function = a type of mathematical expression or formula which expresses the relation between (*a*) a series of stimuli that differ quantitatively, and (*b*) the reports of an observer upon the corresponding sensory experiences, e g the observed relative frequencies of *less* judgments for a series of judgments of comparative stimuli

psychometrics = the quantitative or mathematical aspects of psychological procedure [Hist applied to (1) **reaction-time** experiments, and (2) **psychophysical** experiments In the latter sense (still in use) it includes (*a*) determination of the math relation between quantitatively varied stimuli and the frequencies of a given judgment made upon them (= **psychometric function**), determination of (*b*) **thresholds of sensitivity**, and of (*c*) **relative sensory thresholds** (e g Weber's law) More recently applied to (3) **mental testing**, and now widely used in this sense] **psychometric**[a]

psychometrizing = (*psych res*) the practice of a **sensitive** in receiving impressions relative to human drama in which an object that she holds in her hands has played a part [The object is assumed to release personal or historical effluvia through which the **cryptesthesia** of the sensitive is directed e g the sensitive is supposed to be able to reveal events constituting the history of the object (a ring, cuff-link, letter, etc) and of persons connected with it, a form of **metagnomy** Syn (*pop*) **psychometry** (3)] **psychometrize**[v]

psychometry = 1 the investigation of the temporal factor in mental processes, 2 (sometimes, more broadly) mental measurement in general, 3 (*psych res*) the supposed supernormal acquisition of knowledge by a **sensitive** through the influence of an object which she handles for the purpose of putting her in rapport with the history of itself or of a person connected with it [Not commonly used today Syn (1) **mental chronometry**, (3) **psychometrizing** Cf **psychometrics**] (Accent **-kom-**) **psychometric**[a]

psychomotor = pert to the motor effects of mental or cerebral processes [A generic term embracing **sensorimotor** and **ideomotor** phenomena]

psychoneural parallelism/theory of = the theory that every fact of consciousness is concomitant with some neural change without implication of the reverse relation, namely that all neural conditions are concomitant with conscious process [Cf **parallelism/psychophysical**, which is wider in its application]

psychoneuroses[pl] = 1 (*hist*) the group of functional disorders which are less pronounced and less fundamental than psychoses, 2 the entire group of functional disorders of the central nervous system, so far as they involve or are caused by mental factors or functions, 3 (*psychoan*) a generic term for the transference and narcissistic neuroses as contr w the actual neuroses **psychoneurosis**[sing] — Fr *psychonevroses*

psychonomic forces = 1 the various active conditions which play a part in mental development, 2 (*soc*) the active conditions or forces of a mental character which assist in determining social organization

psychonomics = 1 that branch of psychology which investigates the relation of the individual mind, and its development, to the environment, both physical and social, 2 (*hist*) the science of mental laws

psychopath = an individual with pathological instability but no outspoken mental derangement, in particular, one with intellectual functions intact

psychopathology = the systematic study of mental factors, functions, and processes in pathology or disease [Distg fr **psychiatry** = the practical study and treatment, and fr **psychopathy** = a mental disorder, syn **mental pathology** Cf **abnormal psychology**] **psychopathological**[a], **psychopathologist**[np]

psychopathy = any specific mental disorder [Often euphemistically used as syn for **insanity**, in its best use tending to give a dynamic rather than a static setting to psychiatry Syn **minor psychoses**] **psychopathic**[a] — Ger *Psychopathie*

psychopharmacology = the study of the effect of drugs and poisons on psychological functions

psychophysical law = any expressed relation between stimuli and sensory experiences, such as the Weber-Fechner law in any of its forms of statement [Cf **Weber's law**]

psychophysical methods = a group of specific [illegible]

right and wrong cases (constant stimuli)] — Fr *méthodes psychophysiques*

psychophysical parallelism, see **parallelism/psychophysical**

psychophysics = 1 the science of the functional relations, or relations of dependency, between the body and mind (Fechner), 2 more especially the study of the quantitative relations between a stimulus and the ensuing sensation or other experience [W Wirth defines **psychophysics** as including the whole of quantitative experimental psychology] **psychophysical**[a]

psychophysiology = a term applied indiscriminately to **physiological psychology**, or **psychophysics**, or both

psychosexual = pert to sex life in its widest aspect

psychosexual hermaphroditism = (*psychoan*) the condition in which a sexual object belongs indefinitely to either of the sexes, thus lacking the character of sexual exclusiveness

psychosis = 1 any abnormal or pathological mental condition which tends to constitute a disease-entity, 2 (*hist*) any specific mental state or conscious experience, or the total conscious experience at a given instant [Distg (in both uses) fr **neurosis**] (Accent -ko-) **psychoses**[pl], **psychotic**[a] (1) — Ger (1) *Geisteskrankheit*, (2) *Seelenzustand*

psychosis/deteriorative = mental disorder with tendency to progressive loss of mental functions

psychosocial = pert to those social relations which are determined largely by mental factors [Distg fr **biosocial** and **physicosocial**]

psychosomatic = pert to bodily symptoms which arise from mental states

psychostatics = the branch of psychology which investigates the composition or structure of mental states or conscious experiences [A term proposed to designate the structural treatment of psychology Distg fr **psychodynamics**, proposed to designate the functional treatment Neither term has been generally adopted Syn **structural psychology**]

psychotechnology = the body of general principles governing the art of applying psychology to practical ends [Syn **psychotechnics**, which refers more often to the skills and specific procedures of the art, rather than to the broad general principles Syn **technopsychology**, which usually deals with the applications of psychology to industry and business Cf **applied psychology**]

psychotherapy, psychotherapeutics = the treatment of disorders by psychological methods, these methods differ widely, including waking suggestion, hypnotic suggestion, reeducation, persuasion, psychoanalysis, Christian Science etc [Occasionally used as syn for **psychiatry**] **psychotherapeutic**[a]

ptosis = a falling (usually a paralytic drooping) of one or both eyelids **ptotic**[a]

pubertas praecox = a state of abnormal development resulting in premature or unusually early appearance of puberty and of the characteristics associated with puberty

puberty = the period of life at which the reproductive functions mature, i e become operative [Commonly, but not strictly, confined to the human species Cf **adolescence, maturity**] — Ger *Geschlechtsreife*

pubes = the hairy region of the lower abdomen (Accent pew-) **pubic**[a] — Ger *Schamgegend*

pubescent = characterizing an individual who is just reaching or has just reached puberty **pubescence**[n]

public[a] = 1 characterizing an individual's behavior or status in so far as it affects the community at large, 2 pert to the **public**[n]. [Contr w **private**] — Ger *öffentlich*

public = (*soc*) an aggregation of persons having common interests or habits, who are affected (usually indirectly) by the conduct or behavior of one or more prominent individuals or leaders [E g the great mass of persons in a state, an author's public] — Ger *Publikum*

public opinion = 1 the average judgment or consensus of the individuals of a community (sometimes actual, but often assumed) regarding a given social, ethical, or political question, or regarding an individual, 2 the normative aspect of collective consciousness, more or less clearly defined, with regard to any object or question

puericulture = (*hist*) the art of rearing children

puerilism = a condition of mental non-develop-

ment or degeneration, in which the patient's mental processes and behavior seem to return to the immature type characteristic of childhood or early adolescence (Dupré)

puerperal psychosis = mental disorder following childbirth

pugnacity = an instinct or innate tendency to fight or quarrel with other individuals [Syn **combativeness**] **pugnacious**[a] — Fr *combativité, pugnacité*, Ger *Kampflust*

pull sensation, see **traction sensation**

pulmonary = pert to or located in the lungs (Accent **pul-**)

pulsation = an auditory experience of regularly varying intensity, produced by conducting to the ear a train of sound-waves of periodically varying amplitude [Distg fr **auditory flicker,** or **tonal intermittence,** in which the intensity changes are abrupt] **pulsate**[v] — Ger *Pulsieren*

pulse = the rhythmical wave of tension in the arteries, due to heart action [Generally applied to the measurement of rate and strength of heart action as indicated by the waves of tension in the radial artery at the wrist] — Fr *pouls*, Ger *Puls*

pulse metabolism/law of = the principle that the pulse rate tends to vary in the same direction as the metabolic rate or level — Fr *l métabolique du pouls*

pulvinar[n], **pulvinar body** = the projecting caudal extremity of the dorsolateral portion of the thalamus [Syn **posterior tubercle**] — Fr *pulvinar*

punctal lens = a trade name applied to a system of spectacle lenses of similar design to the **toric lens** but with somewhat different specifications — Fr *lentille punctale*

punctiform distribution = characterizing spatially discrete location on the skin of points, spots, or areas of pressure, pain, warmth, and cold sensibility [Each *point* is believed to be subtended by a separate receptor, the *spots* or *areas* by groups of receptors]

punishment = 1 the infliction of pain or discomfort upon an organism in consequence of the violation of a regulation, or following a course of action not desired by the inflictor 2 a negative motivating stimulus, e g electric shock [Applied both to social and legal procedure and to educational methods with human children and criminals, and in animal learning The term harks back to the traditional notion of retribution, but has been retained in psychology to denote a method of deterrence and of learning Contr w **reward**] **punish**[v], **punitive**[a] — Fr *châtiment, punition, peine*, Ger *Strafe*

pupa = the third stage of development in an insect that undergoes a complete metamorphosis, the stage following the larval stage and preceding the imago stage

pupil = the circular opening in the iris of the eye, which forms the diaphragm of the optical system, regulating the amount of light admitted to the eye by contracting as the light increases, or the reverse [In the human eye the pupil remains circular as it contracts, in the cat (e g) it becomes oblong, then slit-like] **pupillary**[a] — Fr *pupille*, Ger *Pupille*

pupillary reflex = (*vis*) the change in size of the pupil which results from contraction or relaxation of the iris muscle when the visual stimulus varies in intensity [Syn **iris reflex,** a more appropriate term, but less used]

pupillary-skin reflex, see **cutaneous-pupillary reflex**

pupilloscope = an instrument for testing color-blindness or color weakness by measuring pupillary changes when the wave-length or composition of light stimuli is altered [Devised and used by von Hess]

pure = not mixed with anything foreign or extraneous [Used technically in philosophy (e g pure judgment) and in chemistry (e g pure oxygen), in psychology generally a non-technical qualification, except as applied to sensory qualities, e g pure tone] **purity**[n] — Ger *rein*

pure color = a color due to stimulation by radiant energy of a single wave-length [Syn **spectral color** Distg fr **saturated color,** which includes also purple Contr w **impure** or **unsaturated color,** in which the dominant wave-length is mixed with another wave-length or wave-lengths somewhat remote in the spectrum]

pure experience = experience from which all evaluation, objective reference, and the like have been abstracted [Sometimes called **bare sensation** or **pure feeling** The abstraction may be either logical or experimental]

pure line = (*biol*) a series of generations which have similar hereditary characters, usually the result of a special type of inbreeding

pure scale = (*mus*) a scale of true or untempered intervals [See **interval, scale** (2)]

pure tone, see **tone/simple**

purity = a characteristic of certain sensory qualities denoting their uniformity or the absence of diverse elements [E g **pure color, pure tone** Cf **principal** (2)] — Ger *Reinheit*

purity/color = a measure, in stimulus terms, of the degree in which a color, or its stimulus, approaches the condition required for maximum saturation [Various measures have been suggested for estimating purity, the one in commonest use involves the ratio of homogeneous (or spectral) to white stimulus required in a mixture in order to match the given color]

Purkinje after-image = the second positive visual after-sensation which appears most plainly in the hue complementary to that of the primary sensation [Syn **Bidwell's ghost**] (Accent **Poor-**, last syll **-yea**) — Fr *image consécutive de P*

Purkinje figures = the shadows cast on the retina by the blood vessels which lie just within the retinal layer of nerve fibers, seen projected outward into the visual field [They are observed when the interior of the eyeball is illuminated by a strong light concentrated on the sclera or white of the eye, they appear branched and tortuous Syn **snake figure**]

Purkinje images, see **Purkinje-Sanson images**

Purkinje phenomenon = a phenomenon concerning the relative brilliance of different colors, namely, that as the spectrum is darkened, the long-wave end darkens more rapidly than the short-wave end [E g red appears brighter in in intense general illumination, blue in faint illumination Concomitant dark adaptation is required, since the effect rests upon the transition from cone to rod vision]

Purkinje-Sanson images = the images of reflection on the anterior and posterior surfaces of the eye-lens [Cf **phakoscope**]

purple = a series of hues which are distinctive and apparently simple, but which are due to combinations or mixtures of long and short wave-lengths of radiant energy within the visible spectrum and are not produced by stimulation with any single wave-length [The complement of **green**] — Fr *pourpre*, Ger *Purpur*

purple/visual, see **visual purple**

purpose[n] = 1 a situation imagined as the outcome of certain actions to be performed by the thinker himself, which situation he is determined to bring about, 2 the end, real or apparent, toward the attainment of which vital processes are coordinated, such as the maintenance or the perpetuation of life, 3 (*behav*) an objectively definable determinant of behavior-acts in so far as the organism persists in those acts until it reaches some specific type of environmental situation or inner physiological state, and in so far as it shows a tendency to select the shorter (easier) of these acts for reaching this final situation or state [Syn **aim, goal**, and **end**, which emphasize the objective result, while **purpose** (1) refers to the present thought representing this future situation] **purpose**[v] (1) **purposive**[a] — Fr *intention, idee de but, idee de finalite*, Ger *Zweck*, *Vorsatz*, *Absicht*

purposive idea = 1 an anticipatory idea of action accompanied by an attitude of self-determination, 2 an idea which represents (at least in part) a given action and is ordinarily followed by the performance of that action [Cf **purpose** (1).] — Fr *idee intentionnelle*, Ger *Zielvorstellung*

purposivism = any type of psychological system which holds that purposes in some sense are, in addition to stimuli, effective determinants of behavior [Cf **purpose** (1, 3)] — Fr *intentionnisme*

pursuit coordination = a series of responses in which the subject endeavors to adjust certain of his movements so as to accord with the rate and amount or direction of change exhibited continuously in a moving stimulus, e g to maintain visual fixation on a swinging pendulum, to direct a searchlight on a moving airplane [The error, while essentially temporal, may be measured in spatial or other terms]

pursuit movement = a coordinated response of appropriate direction and rate made as in attempt to follow a moving stimulus [Applied esp to a type of eye movement Contr w **compensatory movement** and w movement in reference to static objects]

pursuit pendulum = an apparatus for measuring eye-hand coordination, consisting of a swinging pendulum from the bob-end of which flows a continuous stream of water or sand, and a cup of small diameter with which the subject endeavors to match the pendulum motion and catch the oscillating stream, the score is in terms of volume captured in a given number of pendulum swings

pursuit response (or **reaction**) = response to a moving stimulus or response by means of an indicator which is itself in motion [E g following a swinging pendulum with the hand, gun-pointing at a fixed target from a rolling ship A pursuit response is continuous or semi-continuous in character]

pursuitmeter = an instrument for measuring eye-hand coordination, which combines (1) a stimulus target, whose movements the subject endeavors to match by keeping in step, or to eliminate by complete compensation, and (2) an integrating or totalizing meter or meters which register the amount of coordination-error in terms of amplitude or time or both — Fr *persequometre*

putamen = (*neurol*) the outer portion of the lenticular nucleus (Accent **-tay-**)

putrid = a quality of olfactory sensation of which the smells of hydrogen-sulphide and decaying meat are typical examples [Syn **nauseous, foul** Cf **odor, odor prism**] — Fr *fetide*, Ger *ekelhaft*, *faul*

putting through = a mode of training an individual to perform an action, in which the investigator mechanically moves the individual's limbs so as to accomplish the desired action

puzzle-box experiment = a type of experiment in which an animal is confronted with a box which is opened by some special device, and must discover the means of opening it in order to obtain reward [In general the animal is placed outside the box with the food (or mate) inside, the reverse procedure is sometimes employed When the experiment is used with human subjects, the task is to open a box provided with an intricate set of fastenings Cf **problem box**]

puzzle-experiment, see **blank experiment**

pyknic = a type of bodily build, with short legs, thick neck, and relatively large barrel-shaped trunk, associated with cyclothymic mental disorders (Kretschmer)

pylorus = the opening from the stomach into the duodenum (Accent **-lor-**) **pyloric**[a]. — Ger *Pfortner*

pyramidal tract = a group of nerve fibers which combine in the anterior portion of the internal capsule to form the efferent path from the precentral gyrus of the cerebral cortex to the motor ganglia (in the brain stem) and to the cord (Accent **-ram-**) — Fr *voie pyramidale*, Ger *Pyramidenbahn*

pyramids = elevated regions on the front of the medulla, lying on either side of the anterior median fissure

pyromania = a chronic tendency to incendiarism, found in certain cases of insanity and psychopathic states [Cf **incendiarism, arson**]

pyrosis = a burning sensation, referred to the stomach and lower esophagus, due to acid irritation [Syn **heartburn**]

Pythagorean scale, see **scale**

Q

Q = abbrev for **quartile deviation**

quadrate lobe = an area on the mesial surface of the cerebrum lying between the internal parieto-occipital fissure and the upturned end of the calloso-marginal fissure [Syn **precuneus**] — Ger *Vorzwickel*

quadrature = an expression of the phase relation between two sinusoidal quantities when the phase difference between them is 90° or $\pi/2$ radians

quadriceps extensor reflex, see **patellar reflex**

quadrigemina, corpora quadrigemina = a group of four oval masses or tubercles situate behind

the third ventricle of the brain and forming the dorsal part of the mesencephalon [They consist of the upper or anterior tubercles (= **colliculi superiores**), and the lower or inferior tubercles (= **colliculi inferiores**)] — Fr *tubercules quadrijumeaux*, Ger *Vierhugel*

quale = any sensation or other bit of experience, considered simply with regard to its factual description and without regard to its significance or reference beyond itself (Pron **kway-ly**) **qualia**^{pl}.

qualities/primary, secondary, see **primary qualities, secondary qualities**

quality = (*psychol*) an aspect, attribute, characteristic, or fundamental dimension of experience, which involves variation in kind and not in degree, i e a non-quantitative variable of experience [Distg fr **quantity** = a characteristic whose variations admit of numerical expression Cf **intensity**] **qualitative**^{a}

quantity = 1 (*math*) the general character of phenomena according to which they can be measured or counted, 2 (*logic*) the character of a term as being universal or particular or singular

quantum = a determinate, discrete quantity [The **quantum theory** is based upon the conception of discrete or discontinuous changes in physical phenomena, contr w the **continuity hypothesis.**]

quarter-tone music = a type of music based upon a scale which divides the octave into 24 equal quarter-tone intervals [The ordinary equally-tempered scale divides the octave into 12 semitones]

quartile = one of the points by which a serially arranged group is divided into quarters [Sometimes used as syn for **quarter**, which denotes the interval The lowest **quartile** = that point of value below which fall 25% of the cases and above which fall the remaining 75% Cf **percentile**] (Pron -till prefd)

quartile deviation, Q = a measure of dispersion or scatter, equal to 1/2 the distance between the 3rd and 1st quartiles (75th and 25th percentiles) in a frequency distribution [Cf **quartile**] — Fr *ecart quartile*

questionary, questionnaire = a set of questions dealing with some topic or related group of topics, sent out or given to a selected group of individuals for the purpose of gathering data on the subject-matter or problem under consideration [The results so obtained are treated statistically, the total procedure is called the **questionary** (or **questionnaire**) **method** of research] — Fr *enquête, questionnaire, dépistage,* Ger *Fragebogen*

quiescence = the feeling of restfulness, contr w the feeling of **excitement** in the Wundtian tridimensional scheme of feeling — Ger *Beruhigung*

Quincke tubes = 1 a set of small open pipes for producing tones of high pitch, 2 a type of **interference tube.** [(1) is used for the study of difference tones]

quotient hypothesis = an interpretation of Weber's law according to which the quotients or ratios of any two successive just noticeable differences in a given sensory series are always equal

R

R = 1 abbrev for Ger *Reiz* (stimulus), 2 abbrev for **response**, as in S–R (stimulus-response) relation [(1) is used in psychophysics Prefd in roman cap without period Cf **S**]

r = a symbol denoting **coefficient of correlation**

rabbit-duck figure = a deceptive drawing which can be visually perceived either as the head of a duck facing in one direction or as the head of a rabbit facing in the opposite direction

rabdomancy, see **rhabdomancy**

race = a group of organisms that are relatively similar in form and have common ancestry [A loose term, applied esp to man and other high species, e g negro race, perpetuation of the race, race characters] **racial**^{a}, **race**^{a} — Ger *Rasse*

race experience = the accumulated experiences, habits, knowledge, traditions, etc of (the members of) successive generations in a community, transmitted and made generally available by social intercourse

race psychology = that branch of psychology which investigates the specific mental traits of different races [Usually limited to the human species, in this sense it is a subdivision of **comparative psychology**]

radial = 1 in a radiating manner, i e branching or spreading out in all directions, 2 towards the **radius bone** of the lower arm (Accent **ray-**)

radial reflex = flexion of the forearm, often with concomitant flexion of fingers, upon tapping lower end of radius [Mediated by 5th to 8th segments of cord]

radian = that arc of a circle which is equal to the radius, or the central angle measured by such an arc [A radian equals $180/\pi°$ or $57.2956°$]

radiant energy = an electromagnetic disturbance, of oscillatory or wave character, which travels through free space at a velocity of approx 300,000 km (186,000 miles) per second [**radiant energy** of wave-lengths 400 to 760 $m\mu$ affects the human retina and is commonly known as **light** The term **homogeneous** is applied to radiant energy or light which is all substantially of a single wave-length, and **heterogeneous** to radiant energy which includes a considerable variety of wave-lengths]

radiant flux = the rate of emission of **radiant energy** from a given source, or of its incidence upon a specified surface, evaluated as energy and properly expressed in ergs per second, or in watts [Distg fr **luminous flux**]

radiation = 1 divergence or emission in all directions from some center, 2 emission or diffusion of energy in form of (rectilinear) rays, applied to light, heat, radio-active materials and the like, 3 (*physiol*) the spreading of an excitation to adjacent areas in a nerve-center, giving rise to various secondary or induced effects (responses), 4 (*anat*) the system of fibers which connect the primary with a secondary sense center, 5 syn for **radiant energy** [Not to be confused with **irradiation** = a dispersal (of fibers, retinal excitation, etc) at right angles to the general line of direction] **radiate**^{v}. — Ger *Strahlung*

radical^a = a loose term signifying *thoroughgoing* or *extreme* [Lit going to the root, **radix** **radical**^{n} has technical meanings in chemistry, linguistics,

and politics, in psychology it is usually applied loosely to the holder of any very unusual views]

radiometer = an instrument for measuring **radiant energy**

radiometry = the measurement of radiation in terms of energy [Distg fr **photometry,** based on visual brilliance effects]

radius = 1 (*math*) the distance between the center and circumference of a circle, or a line drawn from the center to any point on the circumference, 2 (*anat*) that one of the two bones of the lower arm which lies on the same side as the thumb [Contr (2) w **ulna,** the other bone] (Accent **ray-**) **radial**[a] — Ger (1) *Halbmesser*

radix = a nerve-root, or bundle of nerve fibers, at their point of entry into the central nervous system or of departure therefrom — Fr *racine*

rage = an intense degree of anger, accompanied by violent facial and bodily expressions [The response is usually marked by movements of attack and a disregard of self-protection] — Ger *Wut*

Ragona Scinà experiment = a demonstration of **simultaneous contrast,** the apparatus consists of two white screens at right angles, and a colored glass at 45° between them, the two fields are seen superimposed, one through the glass, the other reflected in its surface, a black spot on the screen observed through the glass is seen in the color complementary to that of the glass, while a similar spot on the reflected screen appears of the same color as the glass

ramus = a branch [Applied generally to nerves, veins, etc and specifically to certain connections of the sympathetic nervous system with the spinal] **rami**[pl]

rana = a genus of anuran amphibians, including the frog

random[a] = 1 occurring without deliberate volition or determination, 2 haphazard, casual, fortuitous [Applied in statistical work to a **sampling** which is not selected by any criterion, so that the sample drawn presumably does not differ to any marked degree from the entire group (i e the **population**) to which it belongs, it is therefore assumed to represent the total group, with an error which decreases proportionately with the increase in the size of the sample drawn Used as a substitute for **chance** to avoid the popular meaning of the latter (= uncaused), cf **casual, sampling**] **randomness**[n], **at random**[a]. — Fr *au hasard*[a], *hasard*[n], Ger *zufällig, aufs Geratewohl*

random group = (*statist*) a group of subjects drawn at random (i e without selection), from a larger group or population, with the aim of securing a representative sampling of the larger group with respect to some characteristic or ability to be investigated [As the **random group** increases in size with reference to the larger group the conclusions become more truly representative of the latter Syn **random sample,** contr w **selected group**] — Fr *groupe formé au hasard*

random movements, random activities = responses which are apparently not organized with reference to biological or experimental ends recognized by the observer [Usually applied to diffuse activity, as in infants, or to errors made in adaptive behavior Contr w **reflexes, organized behavior, habits, stereotyped movements,** in all of which a definite stimulus or stimulus pattern leads to a definite response] — Fr *mouvements au hasard*

random sample = a limited number of cases in a group, taken for examination in place of the entire group, every precaution being used to prevent the selection of certain specific kinds or values, the aim being to make the sampling representative of the entire group [Syn **random group, random sampling** (= also the procedure used) Cf **random**] — Fr *échantillonnage au hasard*

range = 1 the entire interval between (and including) the highest and lowest values in any series of data, 2 the series of variations within these observed limits [The term **range of sensation** is applied to the entire field of intensity for any class of sensation, **range of stimulation** denoting the corresponding region of values of the stimuli **range** is applied to the field of sensation qualities also] — Fr *étendue, marge, rangée*, Ger *Umfang*

range of attention, see **attention/range of**

range of audibility (or **hearing**), see **audibility range**

rank = the position of a given datum of any sort, with relation to all other data which belong to the same group, when the data are arranged in order of value beginning with the lowest or the highest value **rank**[v] — Fr *rang*, Ger *Rang*

rank correlation = (*statist*) the correlation between two series of paired measures, each of which has been ranked in order of magnitude [In the correlation of ranks, Spearman's rank difference formula, $\rho = 1 - [6\Sigma D^2/N(N^2 - 1)]$ is usually employed, D^2 = the sum of the squared differences in rank of the paired measures and N = the number of ranks] — Fr *corrélation par la méthode des rangs*

rank difference formula (and **method**), see **rank correlation**

rank order = the arrangement of the entire set of measures which form a statistical group in serial order of magnitude — Fr *ordre du rang*, Ger *Rangordnung*

rank order method, see **order of merit/method of**

Ranschburg inhibition = the inhibition of like material by like as demonstrated in Ranschburg's experiments, in which it was found that more numbers could be recognized in a single tachistoscopic exposure when the numbers were all different than when some were the same

rape = sexual intercourse effected against the will of one of the partners concerned, usually the female — Fr *rapt*, Ger *Notzucht*

rapport = 1 an apparent but pseudo insensibility to all stimuli which emanate from persons other than the hypnotizer, sometimes displayed by subjects in the hypnotic state, probably due entirely to suggestion either direct or indirect, 2 a special heightened susceptibility to suggestions emanating from the hypnotizer which may readily be transferred, in large part at least, from the hypnotizer to any other person, by simple verbal suggestion of the former [French, accent **-por**]

raps = (*psych res*) percussive sounds (such as taps or knocks) which manifest intelligence (as by giving ages of persons or by answering questions addressed to disembodied spirits) and which are commonly ascribed to supernormal causes although they are often known to be

produced by mechanical means, as by snapping toe-joints, by slowly moving a shoe-sole or thumb-nail against a smooth or polished surface, etc [A phenomenon of **objective metapsychics** The intelligence may inhere in the agent or sitter who calls the alphabet or number and involuntarily gives the cue when the rapping should stop] — Fr *coups*, Ger *Klopflaute*

ratchet mechanism, see **catch muscle**

rateⁿ = amount of change (in any specified respect) per unit of time [E g rate of growth (in cm per year), rate of sound-wave transmission (in meters per sec)] — Fr *taux*

rateᵛ = (*statist*) to assign a rank, score, or mark, to a given individual or datum in a group of values — Fr *noter, donner une notation*, Ger *schatzen*

rate score = the number of problems attempted, of letters written, or of items completed in a specified time [Syn **speed score.** Cf **comprehension score**] — Fr *notation de taux*

ratingⁿ = 1 the assignment of rank, score, or mark, 2 the position of a given individual or datum in a scale of values [Cf **rate, rank**] — Fr *appreciation*, Ger *Schatzung*

rating scale, see **graphic rating scale, man-to-man rating scale**

ratio = the quantitative relation between two values [ratios are either **rational** = reducible by division to a definite numerical expression, or **irrational** = not so reducible (e g π)] — Fr *rapport*, Ger *Verhaltnis*

ratiocination = the act of reasoning or drawing deductive conclusions [According to J S Mill, the term should be limited to the drawing of *necessary* deductive conclusions] (Pron **rash-i-oss-**)

rationalᵃ = 1 pert to the reasoning process, 2 having the capacity of reasoning, 3 conducted according to correct reasoning — Fr (1) *rationnel*, (2) *raisonnable*, (3) *raisonne*, Ger *vernunftig*

rational and integral function = (*math*) a polynomial or convergent infinite series, in the terms of which the independent variable appears to finite integral powers only [E g $y = ax^{\sqrt{2}}$ is neither rational nor integral, $y = ax^{\frac{1}{2}}$ is rational but not integral, $y = ax^2$ is both rational and integral]

rational behavior, rational conduct = behavior of organisms which rests upon reasoning or which is interpreted or judged as proceeding in a logical manner — Fr *comportement rationnel*

rational self, rational ego, see **self**

rationalism = 1 the theory that knowledge is derived from reason rather than from experience [Contr w **empiricism**] **rationalist**ⁿᵖ

rationalization = the mental process of devising ostensible reasons, to justify an act or opinion which is actually based on other motives or grounds, although this may not be apparent to the rationalizer, 2 the act or opinion resulting from (1) **rationalize**ᵛ

rationalization appeal = (*advert*) a combination of short-circuit and long-circuit appeals [Cf **appeal**]

raw score = a score obtained on a test as determined by the performance itself, to which no correction or modification of any kind has been applied [Syn **crude score**] — Fr *note brute*

ray = (*opt*) a line indicating the presence and direction of travel of light or radiant energy [A geometrical concept, esp useful in the study of optical systems] — Fr *rayon*, Ger *Strahl*

ray of direction = any ray of light which, if produced, passes through the nodal point of the eye or any lens-system, and determines for the observer the direction of any external point on its course

Rayleigh disk (or **disc**) = an apparatus for determining the intensity of sound, which utilizes the principle that a disk suspended in an alternating air current tends to orient itself at right angles to the direction of the current, the disk (of thin mica or like material) is suspended by a light fiber in a resonator tube, and the torque exerted on the fiber when the resonator is excited by sound is registered by the deflection of a light-beam reflected from a mirror attached to the fiber [The deflection is proportional to the sound intensity]

Rayleigh equation = the proportion of spectral red and green required by the normal human eye to match spectral yellow [So called from Lord Rayleigh, who discovered through its use the existence of **anomalous trichromates,** who will not accept the equation formed by persons with normal color vision]

reactance = a form of impedance offered by an inductance or capacity to a periodic electric current [See **impedance**]

reaction = 1 (*psychol*) a movement, glandular effect, or other change in an organism resulting from stimulation, 2 (*phys*) the force which one body (A) exerts upon another (B) when B is itself acting on A, 3, (*chem*) the change which occurs when two or more substances, brought into effective contact, give rise to other substances of different properties than the originals, 4 (*soc*) the onset of a social movement in the direction opposite to the prevailing tendency of social evolution or progress [On account of the varied uses of the term **reaction,** the word **response** is preferable in psychology In physiology the word is commonly used as syn for **reflex**] — Ger *Reaktion*

reaction (or **response**) **experiment** = an experiment which measures the time intervening between the onset of a stimulus (e g sound of a buzzer) and the subject's motor response (e g lifting finger from electric key) [Cf **chronoscope**]

reaction-formation = (*psychoan*) the development of a character trait, usually the exact reverse of the original trait, which keeps in check, and conceals, repressed partial impulses or components of infantile sexuality, e g aggression or cruelty held in check by sympathy or modesty [**sublimation** may proceed along the path of reaction-formations]

reaction (or **response**) **key** = a type of circuit interrupter resembling a telegraph key, used in reaction-time experiments [The observer or subject in responding presses or lifts his finger from the key, which makes or breaks an electric circuit and thus marks off the end of the time period between stimulation and response [Cf **lip-key**] — Fr *presselle, clef de reaction*, Ger *Fingerschlussel*

reaction (or **response**) **time** = the interval of time between the onset of a stimulus and the beginning of the observer's overt intentional response [The character of the response is usually prearranged through experimental con-

ditions, and instructions given to the observer The term **reaction time** is historically established, **intentional response time** is a more accurate term Cf **compound reaction**] — Fr *temps de reaction*, Ger *Reaktionszeit*

reaction (or **response**) **type** = a manner of responding which is conditioned by the direction of the subject's attention [Instructions may determine **reaction type**, but a specific type of reaction may become habitual in the absence of definite directions Distinguishable types are **sensory** (or **sensorial**), **motor** (or **muscular**), and **mixed**]

reactive tendency = an instinctive tendency evoked by the apprehension of some object without, or some situation in which we are placed (Drever) [Contr w **appetite**]

reactor = an individual who reacts, or who performs in a reaction experiment [Preferable to **reagent**, which applies more properly to chemical activity] — Fr *sujet reagissant*

readiness = the condition of preparation on the part of an organism to respond to a given stimulus or type of stimulus [Cf **mental set**] — Fr *predisposition*, Ger *Bereitschaft*

readiness/law of = a principle, advanced as explanatory of learning, according to which a response may be facilitated by neural preparation due to such factors as recency, frequency, etc [**readiness** implies that a connection has already been formed in the nervous system]

reading = 1 the visual reception and understanding of words or other symbolic sensory data, 2 with a qualifying adjective, extended to include the understanding of tactually received symbols [Usually limited to the reception of permanently traced symbols, e g printed or engraved words, but applied also to interpretation of gestures, lip movements (where no sound is conveyed), etc The term is never applied to auditory reception, for which no technical English word exists, the term **hearing** is extended to mean sound-reading]

reading aloud = the mental process of **reading** accompanied by a speaking of the symbols read — Ger *laut lesen*

reading habit = the tendency on the part of the reader to look first (e g) at the upper left corner of a page, due to the fact that he has repeatedly done this in the course of reading printed pages — Fr *habitude de la lecture*

reagent = 1 (*chem*) a substance which causes a chemical change or reaction in another substance, 2 (*psychol*) an individual who reacts, 3 (*pharmacol*) a substance which produces a pharmacological or toxicological effect [Syn (2) **reactor** (prefd as applied to the responses of organisms)] — Fr (1) *réactif*, (2) *sujet reagissant*, (3) *agent*, Ger (1) *Reagens*, (2) *Versuchsperson*

real = 1 having actual existence, as contr w theoretical or imaginary existence, 2 having physical existence, as contr w conscious (experiential) interpretation of physical data [(1) applies to both things and relations, (2) is used esp in discussions of illusions, hallucinations, and delusions Syn (1) **actual** (more emphatic) Distg fr **true**, which applies to propositions and conclusions] **reality**ⁿ — Ger *wirklich*

real number = a positive or negative number [Contr w **imaginary number**]

realism = 1 a term applied to several types of world-view, all of which emphasize the independent reality, or objectivity, of the experienced world, as contr w views that emphasize its subjective character, 2 (*esth*) the theory that the beauty of a work of art depends upon its correspondence with nature [In scholastic philosophy applies also to the theory that *universals* possess objective reality In modern use **realism** (1) includes the following types of view, distg according to the basis for accepting the theory (*a*) **naive r** = that knowledge of the objective world arises immediately from direct awareness of objects, (*b*) **critical r** = that this knowledge arises only through the selective and critical elaboration of the data of consciousness, (*c*) **empirical r** (Kant) = that the objects which constitute the physical (phenomenal) world can be directly experienced, subject to the a priori conditions of all experience Syn **presentationism** Contr (1, 2) w **idealism**] **realistic**ᵃ, **realist**ⁿᵖ

reality = 1 existence in general, 2 the totality of existing objects, as distg fr the data of **imagination and thought**, 3 syn for **activity** and **actuality** — Ger *Realitat*

reality/adaptation to = the ability of an individual to envisage and respond to the actual situations of life, without falsifying to himself either the environmental conditions or his own relations thereto by imagination, day-dreaming, rationalization, or other forms of self-deception

reality/feeling of = (*hist*) a feeling *sui generis* which constitutes the essential factor in belief (James) — Fr *sentiment de réalite*, Ger *Bewusstsein der Realitat*

reality-principle = 1 (*psychoan*) the replacement or control of the demands of the pleasure principle through social, ethical or other external considerations, for the purpose of adapting the organism to the exigencies of reality, 2 the striving of the ego towards self-preservation [Contr w **pleasure-principle**, to which the reality-principle is related, both having been derived from one primal, undifferentiated source]

reasonⁿ = 1 an assigned cause or explanation of some given situation or phenomenon, 2 the totality of the higher intellectual processes, 3 (*hist*) the mental faculty of acquiring knowledge by thinking or by intuition [Contr (3) w **instinct**, also w **sensation, perception**, and **imagination**] **rational**ᵃ. — Ger (1) *Grund*, (2) *Vernunft*

reasonᵛ = to employ logical thought processes, i e to draw deductive or inductive conclusions

reason/law of sufficient, see **sufficient reason/law of**

reasonable = the characteristic of a conclusion or hypothesis, such that it is considered to have an adequate logical justification [In pop usage, the adequacy in *fact* as well as in *logic* is generally implied Contr w **unreasonable** = without adequate justification]— Ger *vernunftig*, *verstandig*

reasoning = 1 a process of thinking, the end terms of which are tested by their logical necessity rather than by their concurrence with observed fact, 2 the process of solving a problem by means of a concept or general principle, 3 (*hist* and *pop*) any mental process whatsoever [Syn **ratiocination**] — Ger *Denken*

reasoning/error of = any mistake in thinking, particularly in judging or concluding

reasoning insanity, see **paranoia** and **psychasthenia**

reasoning test = a term somewhat loosely applied to mental tests in which the testee is required to draw conclusions from stated conditions or to check the "best reason" among several presented to explain a statement [The term is applied (strictly) to such tests as Thurstone's syllogism-A test, but also to such tests as Army Alpha 3 (common-sense test) and to complex verbal relations tests such as Army Alpha 7 (analogies)]

rebirth-fantasy = (*psychoan*) an unconscious fantasy, expressed most frequently in dreams, in which one's birth is symbolically represented [E g of being in water or emerging from an enclosed space] — Fr *imagination de renaissance*

rebound, rebound contraction = 1 a spontaneous contraction sometimes observed in a muscle at the moment of its release from (brief) inhibition, 2 the increased reflex excitability of a muscle (upon stimulation) after it has been for a prolonged period inhibited [Syn (1, 2) **successive spinal induction, indirect spinal induction, successive induction** (Sherrington)]

rebus writing = a form of graphic expression, intermediate between picture-ideographs and phonetic characters, which consists of symbols and pictures of objects, the names of which resemble in sound the words or word-elements for which they are substituted [E g a picture of a bee and a leaf, to represent the word belief] — Fr *ecriture en rebus*

recall = the operation of arousing or initiating a memory image, or otherwise reporting a previous event [Syn **recollection**, best restricted to the *product* of recall] **recall**^{v} — Fr *rappel, évocation*, Ger *Erinnerung, Reproduktion*

recall method = a method of measuring the degree of retention (or rate of forgetting) by computing the percentage of items once learned that a subject can name or otherwise reproduce after any given interval or intervals from the learning period — Fr *m d'évocation*

recapitulation = the repetition of the course of earlier race history in individual developments [Applied to the order in which specific organs arise and develop] **recapitulate**^{v}

recapitulation principle (or doctrine) = the theory that organisms pass through stages in which they resemble types which have occurred in the evolution of their respective ancestors, i e they **recapitulate** the history of the species

recency/law of = 1 a principle concerning the course of association, according to which experiences of more recent occurrence are more likely than earlier ones to be associated with a given experience, 2 a principle advanced as explanatory of the (motor) learning process, according to which the arousal of any previously learned response varies in ease or readiness inversely with the length of time since it was learned or practised — Fr *l de recence, influence du contenu récent*

recept = a mental image formed by the mere repetition of percepts, resulting in the reinforcement of their common characteristics [Term proposed by Romanes Syn **generic (or general) image**] — Fr *image composee*

receptivity = a characteristic of organisms, such that they may be stimulated by forces or conditions in the environment or in portions of their own body outside of the nervous system [The act of receiving impressions is called **reception**, the receiving organ, a **receptor**]

receptor = the ending of an afferent neuron, or a specialized cell in connection with such neuron, which is so specialized as to have a low threshold for one sort of stimulus and a high threshold for other sorts of stimuli, and which when adequately or inadequately activated initiates an impulse or impulses in the associated afferent nerve **receptor**^{a}.

receptor field = the collection of receptive points upon a surface or in other situations, from which a given type of reflex response can be elicited [E g in the spinal dog, the saddle-shaped area of skin from which the scratch reflex may be evoked] — Fr *champ recepteur*

recessive = (*biol*) suppressed or not manifested [Applied to Mendelian characters which fail to appear in the presence of the factor for the corresponding dominant character] — Fr *récessivité*^{n}

recessive character = one member of a pair of Mendelian characters which, when crossed with the other member of the pair, does not appear in any individuals of the first filial generation, but is latent and may appear in subsequent generations [Contr w **dominant**, which appears in all individuals of the first generation]

recess period = a period of rest or of no practice between periods of practice in learning

recidivation = relapse of a disease, or of a criminal

recidivist = a habitual criminal [Technically, one who has been convicted two or more times]

reciprocal^n = (*math*) in respect to a given number, unity divided by that number [Two numbers are reciprocals when their product is unity] — Ger *reziproke Grosse*

reciprocal innervation = the principle that the two motor centers (i e paired **motor half-centers** Sherrington) which innervate a pair of mutually antagonistic muscles (e g biceps and triceps of the arm) are interrelated in such a way that as one of them comes into action and contracts its muscle, the other center commonly (not invariably) inhibits (i e relaxes) the antagonistic muscle [This interrelation of the paired centers is important for the production of alternating flexion and extension of a joint, e g of the hip and knee joints in walking] — Ger *reziproke Innervation*

reciprocity law = the principle that response is determined by the product of the duration and intensity of the stimulus, independently of the magnitude of either one alone [This principle has been found to hold for various visual and other biological phenomena, but only within rather narrow limits Syn **Bunsen-Roscoe law**] — Fr *l de reciprocite*, Ger *Reziprozitatsgesetz*

recitation = the repeating aloud of verbal material which has been memorized **recite**^{v}.

recitation method = a technique of memorizing in which the subject, instead of exclusively rereading or reviewing the items, attempts to recall the items, reviewing them as often as necessary, until complete recall is effected [Contr w. **rereading method**]

recognition = perception of an object or individual, accompanied by a feeling of familiarity, or the knowledge that the object is familiar or has been perceived at an earlier time [Cf **recollection**] **recognitional**[a] (prefd to **recognitive** for euphony) **recognize**[v] (pronounce the g) — Fr *reconnaissance*, *recognition*, Ger *Erkennen*, *Wiedererkennung*

recognition method = an experimental method of measuring memory for a presented series of items, by requiring that they be identified on a later occasion, or discriminated from other items with which they now appear for the first time — Fr *m de reconnaissance*

recollection = 1 the process of initiating a memory experience, 2 an elaborated memory image or systematic succession of such images [Syn (1) **recall** Cf **recognition**] **recollective**[a] pert to the act, **recollectional**[a] = pert to the investigation — Fr *souvenir*, Ger *Erinnerung*

reconditioning = the process of changing a conditioned reflex so as to reinstate an earlier form of response, or, the response so obtained [Cf **conditioned reflex**] **recondition**[v]

reconstruction = (*psychoan*) the interpretation of the clinical meaning of a neurosis from the assembling of technical psychoanalytic material — Ger *Wiederherstellung*

reconstruction method = a method of testing memory, in which the subject is required to rearrange, in the original order, a disordered series of items that was previously studied in the original order [Developed by E A McC Gamble (1908) Syn **reconstruction procedure (or test)**]

recording camera, see **photokymograph**

recovery = the return of an organism or organ to its normal condition after some impairment of function [Applied clinically to restoration from any disease, in physiol to the renewed ability of the neuron to conduct impulses after the refractory period, to the restoration of motor ability after fatigue, etc] **recover**[v] — Fr *recuperation*

recreation = any diverting or pleasurable activity which involves relaxation from work [Applied both to short periods of diversion during the day's occupation, and to an interruption of an individual's regular occupation for several days or months] — Ger *Erholung*

recruitment = 1 (*excitatory*) a phenomenon, particularly of spinal extensor reflexes, in which continued application of a stimulus, unaltered in its intensity, causes more and more muscle fibers to be brought into activity, thus increasing the degree of reflex contraction, 2 (*inhibitory*) an analogous phenomenon when a stimulus produces inhibition, and its prolonged application causes more and more muscle fibers to be inhibited, thus increasing reflex relaxation (Sherrington) — Fr *recrutement*, *propagation de mise en jeu*, Ger *Rekrutierung*

rectal reflex = the defecation urge caused by accumulation of feces in the rectum [Mediated by 3d to 5th sacral segments of the cord]

rectilinear correlation, see **correlation**

rectum = the posterior division of the intestine **rectal**[a].

rectus/inferior, /superior, see **eye muscle**

recurrent[a] = reappearing or repeated after an interval of time [Usually distg fr **periodic** or **rhythmic**, in which the repetition occurs at regular intervals] **recur**[v] — Ger *wiederkehrend*

recurrent conation = the repeated expression of an instinct or tendency after incomplete satisfaction

recurrent image = a visual, auditory, or other image which persistently returns [It is more likely to occur after a strongly emotional or continuous sensory impression]

recurrent psychoses = mental disorders appearing in attacks which repeat themselves, with emphasis on their constitutional rather than specifically caused nature — Fr *psychoses de répétition*

recurrent vision = the succession of positive and negative after-images or after-sensations [Cf **after-image**] — Fr *vision recurrente*

red = 1 a visual sensation typically evoked by stimulation of the normal retina with radiation of wave-lengths within the range of 670 to 760 millimicrons ($m\mu$), 2 any color which manifests a hue predominantly similar to that of the typical red [The complement of **blue-green** or **cyan** Primal red, which is tinged neither with purple nor orange, does not occur as a **pure color**, but may be got by adding some blue to spectral red, which is yellowish] — Fr *rouge*, Ger *rot*

red-green blindness = the common type of partial color-blindness, or **dichromatic vision**, in which the visual system is reduced to yellows, blues, and grays [Reds and greens are seen as certain saturations or brightnesses of yellow, blue, or gray Cf **protanopia** and **deuteranopia**] — Fr *cecite au rouge-vert*

red reflex = a red appearance of the pupil of an observed eye, seen when light is directed into it nearly along the line of sight of the observing eye [It is due to light emerging from the pupil after reflection from the retina of the eye observed, in using the **ophthalmoscope** it is the first indication that the light is being properly directed] — Fr *reflexion rouge*

red-sighted = displaying a heightened color sensitivity for red, or a tendency to see all objects tinged with red due to (*a*) some unknown variation in the eye or nervous system, or (*b*) following prolonged exposure to the stimulus for the complementary green, or (*c*) sequent upon over-exposure to intensive light and possibly hemorrhagic [Syn (*c*) **erythropsia**[n]] — Fr *hypersensibile au rouge*, Ger *rotsichtig*

redintegration, reintegration = 1 the reinstatement of a total presentation, in the form of a memory or idea, upon the appearance of a partial constituent of such (former) presentation, 2 the arousal of a response by a fraction of the stimuli whose combination originally aroused it [The shorter form is more euphonic, historic usage from W Hamilton down favors the spelling **redintegration** Cf **relative suggestion**]

reduce = 1 to lessen, 2 to simplify, 3 (*math*, *statist*) to change an algebraic expression or a set of observations from one form to a simpler form [E g (3) one **reduces** data by deriving from the multitude of original observations a few representative values, e g the mean and standard deviation] **reduction**[n] — Ger (1) *vermindern*, (2) *vereinfachen*, (3) *reduzieren*

reduced cue = a principle used to explain the learning process, which states that as learning progresses a smaller and smaller part of the original stimulus situation is able (or is needed)

to elicit the desired response [Syn **law of partial activity** (Thorndike)] — Fr *repère réduit*

reduced eye = a simple schematic system designed to have the same optical properties as the average unaccommodated human eye [It consists of a single convex spherical refracting surface bounding a medium of refractive index 1 334, the same as that of water, the radius of curvature of the surface is 5 2 mm, and parallel rays entering the system form an image within the medium 15 5 mm beyond the center of curvature or 20 7 mm from the pole of the refracting surface, the device is a mnemonic help and serves to facilitate the calculation of the size of the retinal image, etc Syn **Listing's reduced** or **schematic eye**] — Ger *reduziertes Auge*

reductio ad absurdum = the disproof of a proposition by demonstrating that it leads logically to some conclusion which is admittedly false [Lat]

reduction-division = the division of a cell in which the number of chromosomes is halved

reduplication = the presence in the same organism of two or more organs or segments of substantially the same form [E g two arms, a series of vertebrae] — Ger *Verdoppelung*

reed = a flexible metallic or wooden tongue, whose vibrations (when actuated by a blast of air or otherwise) generate sound waves of varying pitch according to the length of the tongue [Used in instruments such as the clarinet, oboe, bassoon, etc (which are called reed instruments) and in pitch pipes as well as in certain organ pipes Cf **lamella**] — Fr *roseau*, Ger *Zunge, Rohr*

reed organ, see **organ** (2)

re-education = the process of restoring a lost function or ability by an appropriate form of training [The function may be a specific one (e g the loss of some form of manipulation due to a cerebral lesion or an injury to some part of the body), or a much more general one resulting from a mental disease, such as hysteria or paranoia, without any known cerebral lesion]

reference/objective = that characteristic of certain perceptual experiences whereby they are assigned to the external or objective world

referred sensation = a sensory experience localized at a point or area different from that stimulated [Cf **eccentric projection**]

reflected color = color as seen reflected from a perceived object (Katz) — Ger *gespiegelte Farbe*

reflection = 1 (*psychol*) attention to imaginal reproductions of past experiences, 2 (*hist*) the more or less careful observation of one's own mental processes (Locke), 3 (*phys*) reversal of direction of a wave of any sort, due to a change in the density or elasticity of the medium through which it is passing [Syn (1) **introspection** Cf (3) **refraction**] **reflect**^{v}, **reflective**^{a} (1), **reflected**^{a} (3) — Ger (1) *Überlegung*, (2) *Nachdenken*, (3) *Zurückstrahlung*

reflection coefficient = the ratio of the flux of light (or of radiant energy) leaving a given surface by reflection, to that incident upon the surface

reflex^n = 1 any constant, congenital effector response which follows stimulation of a receptor with which the effector is in communication by means of a neural arc, 2 a mechanically determined response [A **simple reflex** is the response of a single effector unit to the stimulation of a single receptor unit when these are linked together in a **simple reflex arc** The simple reflex concept is taken as a convenient abstraction, probably a single reflex arc seldom or never functions alone Syn **reflex response**] (Accent **re-**) **reflex**^{a}

reflex after-discharge = the continuation of reflex response after cessation of the stimulus [A general characteristic of reflex action] — Fr *décharge consécutive réflexe*

reflex arc, reflex circuit = a unit reaction mechanism of the nervous system, consisting of (1) a group of similar receptors (sense organs) to which the stimulus is applied, (2) a conductor nerve path containing afferent nerve fibers which on entering the spinal cord or brain stem enter into synaptic relation with a group of motor cells, (3) a conductor nerve path consisting of efferent (motor) nerve fibers which end in special terminals in the effector tissues (e g in muscle fibers or gland cells) [The **simple reflex arc** is usually diagrammatically represented as consisting of a chain or arc of neurons]

reflex center = any group of nerve cells which act in unison for the performance of a specific reflex activity [Syn **center** (2)]

reflex/chain, see **chain reflex**

reflex conduction = transmission of nerve impulses through a reflex arc [It involves both neural and synaptic conduction]

reflex inhibition = the depressed or inhibited state of a reflex, which is generally correlated in some way with (or produced by) the activity of some other (e g an antagonistic) reflex

reflex integration = the combination of simple allied reflexes in the production of a more complex but harmonious (synergic) end-effect

reflex latency = the delay in reflex arc conduction, as measured by the latent interval between application of a stimulus and the appearance of the end-effect

reflex response, see **reflex** — Ger *Reflexbewegung*

reflex time = the interval of time between the onset of a stimulus and the beginning of a subject's unavoidable and unintentional response [Syn **reflex latency**] — Fr *temps de latence réflexe*

reflexes/allied, /antagonistic, see **allied reflexes**, etc

reflexogenous zones = areas in the skin and mucous membrane from which definite, often generalized, motor responses may be elicited upon appropriate stimulation [Cf **segmental reflex**]

reformism = a type of aggressive mental attitude, characterized by a striving on the part of the individual toward remedying certain evils in others, as a defense against the detection by others of a propensity toward the same evil in himself **reformist**$^{n\,p}$

refracting media = those transparent tissues and fluids of the eye which refract the entering light to form an image upon the retina viz, the cornea, the aqueous humor, the crystalline lens, and the vitreous humor (or body) — Fr *milieux réfringents*, Ger *Brechungsmittel*

refraction = a change in the angle of propagation of a wave (light, sound, etc) in passing from one medium to another of different density or

elasticity [The change is a function of the angle at which the wave strikes the boundary, of the difference in density or elasticity, and of the wave-length Distg fr **reflection**, in which the wave does not penetrate the second medium] **refract**^{v}, **refractive**^{a} — Ger *Brechung*

refraction/error of = the failure of the optical image to focus normally upon the retina, due to imperfection of the dioptric system of the eye, or to imperfection in the shape of the eyeball

refraction/index of, refractive index = (*phys*) a numerical expression indicating the degree to which the path of light or radiant energy is bent in passing from one transparent medium into another [The **index of refraction** is relative to the two media concerned, it is the ratio of the sine of the angle of incidence to the sine of the angle of refraction, the two angles being measured between the perpendicular to the bounding surface and the incident and refracted rays respectively, and it is independent of the magnitude of these angles When stated with reference to a single substance, the other implied substance is usually air Cf **refraction**] — Fr *indice de réfraction*, Ger *Brechungsindex*

refractoriness = a loose term expressing inamenability to discipline or active disregard of social conventions on the part of children, mentally retarded individuals, or criminals **refractory**^{a}

refractory period, refractory phase = a brief period of time following the excitation of a nerve or muscle fiber, during which the nerve or muscle fiber is inexcitable and does not transmit impulses [The **refractory period** is divided into an *absolute r p*, which follows immediately after the excitation and passage of the impulse, and a later *relative r p*, during which the neural substance is excitable by strong but not by weak impulses] — Fr *phase réfractaire*

refutation = the destruction of the credibility of a conclusion, either by establishing the contradictory or by showing the logical error which led to its acceptance — Ger *Widerlegung*

regard/field of = the total region of the external world embraced by the moving eye [Distg fr **field of vision** (or **visual field**) = embraced by the unmoving eye] — Fr *champ de regard*, Ger *Blickfeld*

regard/line of = the straight line which connects the objective fixation point (or **point of regard**) with the center of rotation of the eye [Distg fr **line of sight**, which joins fixation point and fovea] — Ger *Blicklinie*

regard/plane of = a theoretical plane which passes through the center of rotation of the two eyeballs and the fixation point in the objective field [Cf **center of rotation, fixation-point**]

regard/point of = the point in the objective field toward which the center of the eye is directed [Syn **fixation-point**] — Ger *Blickpunkt*

regeneration = 1 the restoration or replacement of an injured or lost part of the body, 2 renewal of vigor or vitality [Syn (2) **rejuvenescence.**] **regenerate**^{v} — Ger *Wiederhervorbringung*

regional reflex, see **segmental reflex**

regional static reaction, see **segmental static reaction**

register^n = 1 the range or compass of sound frequencies which a musical instrument, apparatus, or voice is capable of producing, 2 a portion of the compass of an instrument, etc within which the sounds are similarly produced or of a particular timbre

regression = 1 the tendency, on the part of individual organisms, species, or societies, toward checking the effect of progress, by reverting to the mean or typical form, 2 (*statist*) a general term which refers to the relation between paired variables when such relation is expressed by the equation of a straight line or curve [Contr (1) w the notion of **progress** = the tendency to change (or the process of changing) toward greater adaptiveness The statistical computation of **regression** (2) is effected by means of certain formulae cf **regression equation** (2) is properly called **regression** because, for a given value of an independent variable, the most probable value of the dependent variable, as shown by the regression line or curve, regresses toward the mean of the dependent variable, as compared with the values when the relations of dependence are reversed Cf **filial regression** The concept of **regression** (2) originated with Galton (1885) and is fundamental to the concept of **correlation** (3) For psychoanalytic use, see **regression (of libido)**] **regress**^{v}, **regressive**^{a} — Ger *Rückkehr*

regression coefficient = a constant in the regression equation, which indicates the slope of the regression line in a correlation diagram [The equation of the regression of Y on X is $Y = \bar{Y} + r\,(\sigma_y/\sigma_x)\,[X - \bar{X}]$ in which $r\,(\sigma_y/\sigma_x)$ is the regression coefficient]

regression equation = an equation, generally linear, for estimating the mean value of a dependent variable from given values of one or more independent variables [Cf **regression coefficient** The general regression equation when regression is linear is
$\bar{x}_0 = b_{01.23...n}\,x_1 + b_{02.13...n}\,x_2 + \dots + b_{0n.12...(n-1)}\,x_n$
x_0 is the dependent variable, $x_1 \dots x_n$ the independent variables and the b's are **regression coefficients**]

regression/law of filial, see **filial regression/law of** — Ger *Rückschlagsgesetz*

regression line = a line whose course represents regression either graphically or by means of an equation

regression (of libido) = (*psychoan*) a tendency on the part of the libido to revert to some channel of expression which belongs to an earlier phase of the libido development (e g pregenital) [Cf **libido**]

regression time = the interval or intervals in the reading process, during which the reader makes a readjustment fixation at the beginning of a new line or visually re-examines words or phrases that he has previously fixated or inadequately perceived within a line — Fr *temps de retour*

regret = an emotional reaction characterized by unpleasant feeling-tone and by an ideational reference to some past experience, with the desire that it might have been otherwise — Ger *Reue, Bedauern*

regular = following a definite law, formula, or principle [Contr w **irregular** = not in accordance with any known law, etc] — Ger *regelmässig*

regulation = (*biol*) the maintenance of the normal structure or functions in organisms

Reichenbach phenomenon, see **od, odic force.**

Reil/island of, see **island of Reil**

reinforced reflex = a reflex whose motor manifestation has been accentuated [Supposed to be due to overflow of energy from one spinal segment to others]

reinforcement = 1 (*neurol*) the action of one neural excitatory process upon a second, such that it increases the intensity or efficiency of the second, 2 (*psychoan*) a dream mechanism in which the primary motive of the dream is expressed anew for the purpose of emphasis, usually by means of a dream within a dream [(1) applies esp to the increased muscular contraction which is produced by a summation of neural processes Syn **facilitation** (2)] — Fr *renforcement*, Ger (1) *Bahnung*

reintegration = reinstatement of a complex phenomenon or experience [Syn **redintegration**, the more common term]

Reissner's membrane = (*aud*) a delicate membrane which extends from near the outer edge of the spiral lamina to the bony wall of the cochlear canal, a little above the attachment of the suspensory ligament [It separates the scala vestibuli and cochlear duct Syn **vestibular membrane**]

rejection = 1 (*beh*) a type of response whereby a substance is avoided, or is cast out after being partly taken into the body, 2 an experience or element of experience characterized by a negative or antagonistic attitude with respect to some concept or judgment [Syn (2) **disbelief**] — Ger *Ablehnung, Zuruckweisung, Verwerfung*

rejuvenation = the process of restoring vitality, esp the renewal of youthful physiological vigor in a senescent organism — Fr *rajeunissement*

relation = 1 any connection or mutual influence between two or more data, 2 that which can be observed or conceived to hold good as between two data though not in either datum taken alone, e g difference, cause-effect [Some psychologists hold that a specific type of mental process called **relation** (or **relating**) is involved in thinking of relations] **related**[a] = applied to the data, **relational**[a] = pert to the connection, **relationship**[n] = the fact of being in relation, **to be related**[v] — Fr *relation, rapport, parenté*, Ger *Beziehung, Verhaltnis*

relation/consciousness of = awareness or the conscious assumption of a relation or connection between certain data of experience [Cf **relation**] — Fr *conscience de rapport*

relation/measures of = (*statist*) coefficients which indicate how closely the changes in one variable are paralleled by changes in another variable — Fr *mesures de rapport*

relational states, see **substantive states**

relationship system = any system of terminology for designating and classifying kinship, whether these be actual blood relations or socially prescribed relations between individuals [Usually reckoned in either the mother's or the father's line, often according to generation levels rather than by direct descent, and in social practice governing incest, marriage, inheritance, and sometimes social intercourse as well] **relative**[n v] — Fr *système de rapport*

relative[a] = not intrinsic, but dependent upon comparison with other data [Contr w **absolute**] — Ger *bezuglich, relativ*

relative accommodation = the accommodation of the two eyes when working together in binocular vision [Cf **absolute accommodation**]

relative fatigue = a decrement in the amount of work relative (or proportional) to the intensity of the total stimulus (or incentive)

relative pitch, see **pitch/relative**

relative sensitivity = awareness of a difference or change between two experiences, the exact determination of which is called the **difference limen**

relative suggestion = a type of association in which the reinstated material is dependent upon comparatively new connections (Thos Brown) [Not identical with the traditional formula of association by contiguity and similarity, significant as laying emphasis on mental activity Cf **redintegration**]

relative threshold (or limen), see **threshold**

relative variability = the relation between (*a*) the deviations of the individual observations from the mean, and (*b*) the magnitude of the mean, it is obtained by the formula $r\ v = 100MV/M$, in which MV is the mean variation and M the mean

relativity/law of = 1 (*psychol*) the principle that every phase of experience is influenced by every other simultaneous phase of experience, 2 the principle that an experience is understood only in its relation to other experiences, as when the visual localization of an object depends upon the perception of the relation of the object to the frame of reference, 3 (*psychophys*) the **Weber-Fechner law**, which states that relative and not absolute differences are perceived

relax = 1 to cease active contraction of a muscle or other motor organ, 2 to relieve oneself of mental strain [Contr (1) w **contract**[v], (2) w **to be under stress or strain**] **relaxation**[n] — Fr *se relâcher*[v], *relâchement*[n], Ger (1) *erschlaffen*, (2) *sich zerstreuen*

relaxation/feeling of, see **tension-relaxation/feeling of**

relaxation principle = (*psychoan*) a principle used by the analyst to increase the easy atmosphere of the analytic situation by adjusting his own attitude to the unconscious mood of the patient

relaxation/progressive = a process of training to relax the skeletal musculature consciously (E Jacobson) [Used both as a psychological technique and as a psychotherapeutic measure]

relearning = the process of learning or stereotyping some complex motor act or of establishing some sequence of memory material which has already been mastered by the individual but has been lost (or partly lost) through disuse or through some injury to the central nervous mechanism or the response mechanism [Syn **re-education**, a broader term, applied to the general process involved, while relearning applies to a specific act] — Fr *reapprentissage, reacquisition*

reliability = 1 (*psychol*) the degree of accuracy of a given report (of an event, phenomenon, etc) or the degree of dependability of the testimony, in general, of a given individual, 2 (*statist*) the self-consistency of a test or other measuring device, 3 the reciprocal of the variability of a series of measures from some chosen standard [**coefficient of reliability** = the correlation among a set of measurements or between two similar measures] — Fr (1, 2) *fidélité*, (2) *cohérence*, (3) *constance*, Ger *Zuverlassigkeit*,

relief = 1 (*vis*) the deviation or projection of parts of an object from the general plane in which it lies, when such deviation is in the direction of the observer, 2 (*affect*) a feeling characterized by pleasantness, which arises from the removal of tension or strain [Contr (1) w **intaglio** = deviation or projection from the plane in the direction away from the observer] — Fr (1) *relief*, (2) *soulagement*, Ger (1) *Relief*, (2) *Erleichterung*

religion = 1 beliefs, attitudes, and practices with respect to superhuman personal or personified power or powers which are responsible for some or all of the processes of nature, animate or inanimate, and are conceived as capable of being influenced by human behavior, 2 (in a narrower sense) a specific systematic theory regarding the nature of superhuman power or powers and of its or their relation to man, together with the cult in which this relation expresses itself, 3 (more loosely) belief in an inspiring, directing philosophy of the universe, or devotion to whatever is regarded as most worthwhile in life [Distg fr philosophical belief in that it includes a felt, practical relation to superhuman power or powers, distg fr **magic** in that *magical* power is so conceived as to make worship ineffective and coercion possible] **religious**[a]

religion/psychology of = that branch of psychology which investigates the phenomena of religion in the individual or in different groups or races of man [Includes various fields, e g the origin of religion, its development in society and in the individual etc, also the study of particular aspects of religious consciousness, e g the psychology of religious mysticism]

religious conduct = 1 the behavior of man in so far as influenced or determined by religion, 2 the ritualistic or ceremonial behavior of man prescribed or suggested by religion

religious consciousness = the experiences of the individual in so far as they concern religion or religious conduct

religious experience = 1 an experience whose content includes as a prominent factor or constituent the belief in a superhuman being and a conscious interrelation with that being, 2 (more loosely) an experience of momentous consequence in the spiritual life of a person

religious instinct = a tendency, assumed to be inherited by all men, to be interested in religion and to desire to participate in religious practices [Cf **religion**]

remedial instruction = systematic training of defectives or delinquents which seeks to remove the defect or the cause of delinquency — Fr *éducation de redressement*

remember = to instate a memory image or otherwise to report an earlier experience [Syn **recollect** Cf **recollection**] — Fr *se souvenir de*, *se rappeler*, Ger *sich erinnern*

remembrance = a loose term sometimes used to cover the various processes concerned in memory, such as retention and recollection — Fr *memoire*, Ger *Erinnerung*

reminiscence = 1 the tendency of an experience to become more firmly fixed with the passage of time (Ballard), 2 syn for **recall** [Contr w **obliviscence**, the ordinary tendency to forget Cf **memory**]

remission = 1 temporary abatement or subsidence of a physiological or pathological process, 2 the period of diminution of a paroxysmal action, esp that of remittent fever — Ger *Nachlassen*

remorse = an emotion of regret, in which the individual's feeling of responsibility for his own past conduct is a leading source of the emotional reaction [Cf **regret**] — Fr *remords*, Ger *Gewissensbiss*

remote[a] = 1 at a great distance in time or space from the location of the speaker, or from the object or individual under consideration, 2 characterizing sensations of bodily movement which originate in receptors not located in the member whose movement is sensed [Contr (2) w **resident** (W James)] — Fr *eloigne*, Ger *entfernt*

remote association = a connection between an item of a series and any other item not contiguous to it, e g in the alphabet, a-c, a-x, c-g, etc

renal = pert to or located in the kidneys (Accent **ree-**)

renunciation = (*relig*) the surrender of one's personal (selfish) will to what is regarded as the divine will

repetition-compulsion = (*psychoan*) a compulsion on the part of the patient to reproduce, during the analysis, according to the condition of **resistance** or **transference**, the process of his (or her) individual development or experience, thus gradually transforming the repressed material into remembered and current experience (Freud) — Fr *contrainte de repetition*, *repetition coercitive*, *compulsion de repetition*, Ger *Wiederholungszwang*

repetition/law of, see **frequency/law of**

report = the account given by either the observer or the experimenter of the occurrences, experiences, impressions, data, or the like, in connection with any investigation, trial, or momentary presentation **report**[v] — Ger *Bericht*

repose = 1 a condition of comparative inactivity or rest, 2 (*esth*) a feeling of composure or rest induced in the observer of an esthetic object by the balance of its formal elements — Ger (1) *Ruhe*, (2) *Gemutsruhe*

re-present[v] = to present again [Distg fr **represent** = to resemble or stand for] (Accent **ree-**)

represent[v] = to stand for and in some respects take the place of another thing [Best limited to symbolic substitution, distg fr **reproduce**, which implies resemblance] (Accent **rep-**)

representation = 1 an experience whose content is a reproduction of some earlier experience which occurs in the absence of the original stimuli (e g a memory image or imagination), 2 the operation by which such an experience is brought about [Syn (1) **image**, (2) **imagination**] **representative**[a] = pert to representations, **representational**[a] = pert to the study — Ger *Vorstellung*

repressed complex = (*psychoan*) a complex, or pathological emotion, whose gratification is systematically inhibited by the individual himself by means of repressive forces existent in either the unconscious or the superego [Cf **repression**] — Fr *complexe refoule*

repressed wish = (*psychoan*) a wish, or desire, whose gratification is systematically inhibited by the individual himself by means of repressing forces existent in either the unconscious or the

superego [Cf **repressed complex**] — Fr *desir refoule*

repression = 1 (*psychoan*) the mental process by which perceptions and ideas which would be painful to consciousness are forced into the unconscious system, while still remaining dynamic, 2 (*psychoan*) the rejection, by the ego, of impulses emanating from the id (topographic-dynamic conception), 3 (*beh*) syn for **self-control** [Cf (1) **blocking**, (1, 2) **suppression**] — Fr *refoulement*, Ger *Verdrangung*

reproduction = 1 (*psychol*) experiencing again some part of an earlier experience, 2 the execution of a previously learned response, or the duplication of some objective stimulus-pattern by a motor response, 3 (*biol*) the genesis of a new individual organism from a parent or parents [The modes of biological **reproduction** (3) are classed as **asexual** (or **non-sexual**), including **fission**, **budding** (**gemmation**), and **sporulation**, and **sexual** (**gamogenetic**)] **reproduce**[v] — Ger (1, 2) *Wiederholung*, *Reproduktion*, (3) *Wiederhervorbringung*

reproduction/method of = 1 a method of testing either the subject's retention or his reproductive skill, by directing him to "reproduce," orally or graphically, a given memorial or perceptual experience, 2 (*psychophys*) syn for **method of average error** [Cf (*1*) **recall method**]

reproductive function = 1 the entire series of operations involved in bringing new organisms into existence, in so far as these operations are activities of the parent organism or organisms, 2 any one of the different operations in this series (e g ovulation, impregnation, parturition) [Syn **generative function**, **generation** (in common use but less distinctive), **sexual function** should be applied only to the distinctive role of either of the two sexes in reproduction] — Fr *fonction reproductrice*

reproductive imagination = that type of imagination which tends to conform to previously observed patterns, rather than to generate new patterns [Contr w **creative imagination**, which produces new patterns]

reproductive selection = a subordinate theory of evolution by selection, according to which the most fertile members of a species produce a large proportion of each successive generation, whence it follows that those characters which are correlated with fertility are most likely to be selected — Fr *selection genetique*

reproductive tendency = a general term which includes **associative tendencies**, **impressional tendencies**, **perseverative tendencies**, and other factors which make for reproduction [Sometimes used as syn for **associative tendency**]

reptilia, **reptiles** = a class of cold-blooded vertebrates characterized by lung-breathing throughout life, and usually by a covering of horny scales [In the evolutionary series, reptiles rank above fishes and amphibia and below birds and mammals]

repugnance = an emotional attitude characterized by extreme unpleasantness, and directed (in the form of antagonism or opposition) toward some definite object or class of objects [Syn **antipathy**, **aversion**, **disgust**] **repugnant**[a] — Ger *Widerwille*

repulsion = a term applied figuratively to an attitude of avoidance, usually tinged with disgust, taken by one individual toward another [Contr w **attraction**] — Ger *Abscheu*

reputation = the estimate of an individual's character on the part of society at large or of the members of the social group to which he belongs [Usually applied to a contemporary estimate, irrespective of degree, and distg fr **prestige** = a high contemporary estimate, and fr **fame** = a high posthumous estimate Syn **repute**] **reputable**[a] = having a good reputation

rereading method = a technique of memorizing in which the repetitions consist in reading the items, instead of attempting to recall them [The amount learned is usually tested by recall, recognition, reconstruction, or other methods, after a prescribed number of rereadings, or at a time when the individual signifies belief that he has learned the series Contr w **recitation method**] — Fr *m des lectures repetees*, Ger *Wiederlesungsmethode*

research = any systematic attempt to discover the constitution or operation of nature by first-hand observation of phenomena [Syn **investigation**, which has a more specific connotation, **investigation** = of definite situations, **research** = upon the general field, **investigate**[v] is used for both and prefd to **research**[v]] (Accent -search) — Fr *recherche*, Ger *Forschung*, *Erforschung*

resemblance = an observed similarity or correspondence between two objects, events, or other data [Emphasizes the *observation* or *judgment* of similarity or correspondence, in contr w syns **similarity**, **likeness**, which emphasize the *objective* correspondence] **resemble**[v] — Ger *Ahnlichkeit*

resemblance/law of, see **similarity/law of**

resentment = an emotional attitude characterized by unpleasantness, and antipathy aroused by the idea of *injury* to oneself (or to a friend) by some other individual, toward whom the attitude is directed — Fr *ressentiment*, Ger *Unwille*, *Nachtragen*

reservation = the concealment or deliberate omission of some presumably significant detail in an introspective report

reserve = a mental attitude characterized by a natural or a habitual disinclination on the part of the individual to participate in social conversation or intercourse [Syn **shyness** Contr w **frankness**, **expansiveness**] **reserved**[a] — Fr *reserve*, Ger *Zuruckhaltung*

residual = the numerical or quantitative difference between the observed and the computed value of a result in a given experiment

residues/method of = a method or canon used in inductive procedure according to which if one deduct or subtract from any phenomenon such part as is already known to be the effect of certain antecedents, it may be concluded that the residue or remainder of the phenomenon is the effect of the remaining antecedents [Formulated by J S Mill Cf **Mill's canons**]

residuum = 1 a remainder left over in a given complex phenomenon, after certain significant elements or constituents have been accounted for, 2 a trace or engram remaining as an after-effect of an experience [Syn **residual**] **residua**[pl] — Fr *résidu*

resignation = 1 the attitude, usually coupled with some feeling, of not making any positive response to a cognized object, event, or situation, 2 the voluntary act of renouncing something previously possessed or espoused — Ger *Entsagung*

resinous = a quality of olfactory sensation of which gum benzoin is a typical example [A class of Henning's Cf **odor, odor prism, balsamic**] — Ger *harzig*

resistance = 1 (*phys*) the action of a body against an opposing force, 2 (*psychol*) the response of an organism to stimulation, in which the direction of the movement or activity is opposite to the direction of the applied force, 3 (*psychoan*) an instinctive opposition, in the dynamic sense, toward any attempt to bring unconscious material into consciousness, or to lay bare the unconscious, thus excluding from consciousness all repressed material and tendencies which displease it [The constant ratio of electromotive force to current is called **electrical resistance**, its unit is the ohm **resistance** (3) is a manifestation of the forces of **repression**] — Ger *Widerstand*

resistance/galvanic, see **ohmic resistance**

resistance/sensation of = a fusion of kinesthetic and cutaneous sensations evoked by pressure and muscular tension, when the muscle or muscles concerned are contracting against an opposing external force — Ger *Widerstandsempfindung*

resoluteness, resolution = an attitude characterized by firm adherence to some line of conduct previously decided upon [Syn **decision, determination**, owing to the ambiguity of these terms (and of **resolution**), **resoluteness** is prefd] **resolute**[a]. — Fr *resolution*, Ger *Entschlossenheit*

resolution = 1 a decision which involves some general line of conduct, 2 syn for **resoluteness**, 3 the analysis of a compound into its constituent parts [Syn (1) **resolve**[n]] **resolve**[v] (1, 3) — Fr (1, 2) *resolution*, (3) *analyse*, Ger *Entschluss*

resolution/law of = a principle formulated by H S Jennings as a partial explanation of the modification of behavior, as follows "the resolution of one physiological state into another becomes easier and more rapid after it has taken place a number of times"

resonance = the vibratory response of a body to a frequency imposed upon it [If the resonating body has the same frequency as the inducing sound-wave, the phenomenon is called **tuned resonance**, or **sympathetic vibration**, if the resonating body has a different frequency, it is called **forced resonance** or **forced vibration**] **resonant**[a]

resonance box = a type of resonator consisting of a wooden box of appropriate dimensions, on which is mounted a tuning fork in order to amplify the intensity of the sound — Ger *Resonanzkasten*

resonance theory, see **hearing/theories of**

resonator = a device for magnifying the intensity of a tone of some given pitch [The effect of a resonator depends upon its air capacity, the diameter of the openings, its shape, temperature of the vibrating medium, and other factors The Helmholtz resonator is spherical in shape, with a tubular projection for connection with the ear The Konig resonator is cylindrical]

respect[n] = a sentiment characterized by appreciation of certain qualities in another individual or (figuratively) by appreciation of laudable aspects of some system, social philosophy, program, or pattern of living, and marked by a certain intellectual deference, if not acceptance **respectful**[a], **respect**[v] — Ger *Achtung*

respectability = a social judgment concerning an individual or type of conduct, to the effect that the general conduct of the individual, or the type of conduct in question, conforms to accepted social standards **respectable**[a]

respiration/external = the breathing function, i e the operation of the lungs, gills, etc in alternately expanding and contracting, so as to admit oxygen and remove waste products from the blood [It includes **inspiration** = drawing in, and **expiration** = an expulsion of the oxygen and waste Distg fr **internal respiration** = exchange of gases between tissues and body fluids] **respire**[v], **breathe**[v], **respiratory**[a] (accent **-pie-**) — Ger *Atmung*

response = the muscular contraction, glandular secretion, or any other activity of an organism which results from stimulation [Syn **reaction**, a generic term, embracing not merely organic responses but inorganic interplay, in psychol both terms are used, **response** is prefd for the motor effects of stimulation, as avoiding ambiguity Cf **stimulation**] **respond**[v], **responsive**[a], **response**[a]

response/direction (or **sense**) **of** = the spatial orientation of a response with respect to the source of stimulation [Tropisms are classified as positive (adient) or negative (abient) according as the organism moves toward or away from the source of stimulation, other orientations occur, e g the transverse (= horizontal) geotropism of the branches of certain trees]

response experiment, see **reaction experiment**

response key, see **reaction key**.

response psychology, reaction psychology = the view and treatment of psychological phenomena which emphasizes the motor or action aspect, the action being considered little or not at all as conation or volition, but principally or exclusively as reaction-to-stimulation

response time, see **reaction time**.

response type, see **reaction type**.

responsibility/feeling (or **consciousness**) **of** = awareness on the part of the normal human adult that he is bound to act according to social standards and is amenable to punishment for infraction of social prescriptions [A fundamental attitude of general conformity to the prescriptions and prohibitions of society] — Fr *sentiment de responsabilite*

responsible = 1 actively concerned in the production of a certain specific event or condition of affairs, 2 characterizing the social and legal status of the normal human adult, in that he is assumed to be so constituted as to be able to conform to the prescriptions of social custom, moral standards, and government, and is judged deserving of and amenable to punishment if he runs counter to these prescriptions **responsibility**[n] — Fr *responsable*, Ger *verantwortlich*

rest = 1 (*phys*) the maintenance, by a physical mass, of the same position in relation to its surroundings, 2 (*psychol*) cessation of overt movements on the part of an organism, 3 (*physiol*) the period of recuperation after the completion of some specific work or exercise, 4 (*music*) a definite period of silence, occurring within a composition [Contr w (1) **motion**, (2) **movement**, (3) **activity** In written music the length of the **rest** (4) is measured by symbols,

corresponding to the measure of the composition, e g 1/4 rest, 1/8 rest, etc] — Fr *repos*, Ger *Ruhe*

rest-pause = a pause or intermission, introduced during a period of work with a view to eliminating fatigue — Fr *intervalle de repos*

restlessness = 1 a general state of the organism in certain situations, characterized by a tendency to aimless activity whose direction or pattern is constantly changing, 2 a fundamental type of feeling — "the feeling of that value of our experience which makes it an object of momentary discontent" (Royce) [Contr w **quiescence**] — Fr *inquiétude, agitation*, Ger *Rastlosigkeit, Unruhe*

restoration = (*physiol*) the replacement of any lost structure, function, or material in an organism [Syn **regeneration** (of structure only)] — Fr *restauration*, Ger *Wiederherstellung*

restrain = to actively prevent another living being (or oneself) from performing some act, or from pursuing some course of action [Contr w **constrain** = to compel another to adopt some course of action] — Fr *empêcher de, restreindre, retenir*, Ger *zurückhalten, abhalten*

restraintⁿ = the inhibition of an organism's activity by some other organism or through physical bonds or barriers — Fr *frein*, Ger *Zurückhaltung, Zwang*

result = 1 a phenomenon or situation viewed in relation to certain preceding conditions, without which it would not have arisen, 2 the data obtained from scientific observation or experimentation [Syn (1) **consequence**, (1) **effect** Distg (2) fr **conclusions**, based on the **results**] — Ger (1) *Erfolg*, (2) *Ergebnis*

resultant = the simplest force whose operation is equivalent to the operation of two or more forces working simultaneously

resultant tone, see **combination tone**

retained members/method of = a memorizing method in which the measure of memory is the proportion or percentage of the material memorized that is correctly reproduced at the time of the test [The method economizes time, and is applicable to group testing] — Ger *Methode der behaltenen Glieder*

retardation/mental = the slowing up of mental development, resulting in a condition of mild mental inferiority [Syn **backwardness** Strictly, **retardation** denotes the slowing-up process, **backwardness**, the resulting condition] **retarded**ᵃ (applied to individuals or to mental functions) — Fr *arriération mentale*

retention = the persisting after-effect of an excitation, experience, or response, on the basis of which modified responses or experiences may occur on subsequent occasions [Generally assumed as an essential factor in determining **memory** and **habit**] **retentive**ᵃ, **retain**ᵛ. — Ger *Behalten*

retentiveness, retentivity = capacity for **retention**

reticular layer, see **granular layer**

reticular stratum, see **corium**

retina = the innermost of the three coats of the eyeball, which receives the image formed by refraction at the cornea and lens, and serves as receptor organ for vision [In the human retina 10 layers are distinguished, of which the layer of **rods and cones**, the second from the exterior, is the specific visual receptor Cf **retinal layers** See Table XI] **retinal**ᵃ, **retinas** (or **-ae**)ᵖˡ — Ger *Netzhaut*

retina/cortical = (*embryol*) a modified portion of the cerebral cortex forming the layer at the back of the eye, which is specifically receptive to light stimuli and contains the neurons whose axons form the optic nerve

retinal elements = the rods and cones, or the nerve-paths leading from them, esp as having optical reference each to a particular directional element in the visual field

retinal horizon = the horizontal meridian of the retina, i e the one upon which the terrestrial horizon is imaged when the eyes are in the **primary position**

retinal image, see **image/retinal**

retinal layers = the strata of the retina which may be distinguished microscopically in sections cut perpendicularly to its surface [See Table XI] — Fr *couches rétiniennes*, Ger *Netzhautschichten*

retinal light, see **idioretinal light**

retinal oscillations = a variation in the state of excitation of the visual neural apparatus following a single momentary stimulation, which is experienced as a brief succession of alternating bright and dark phases, such as **Charpentier's bands** or recurrent after-images

retinal picture, see **picture/retinal**

retinal rivalry = alternation of sensations first from one eye and then from the other, when the two eyes are simultaneously stimulated by different colors or figures [Syn **binocular rivalry** Contr w **binocular fusion**, in which the two impressions are fused into a single impression] — Fr *lutte rétinienne, antagonisme des champs visuels*, Ger *Wettstreit der Sehfelder*

retinitis = an inflammation of the retina [Since the retina contains the nerve-endings upon which vision depends, **retinitis** may cause blind areas (**scotomata**) in the visual field, and blindness]

retinitis pigmentosa = a pathological condition of the pigmentary layers of the retina, accompanied by diminished color sensitivity (esp for blue), refracted color fields, and lowered power of dark adaptation

retinoscope = a small perforated mirror for determining the refractive condition of the eye by observing the motions of light and shadow across the pupil when light is thrown into the eye and upon the retina from the mirror as it is rocked back and forth [Syn **skiascope**] **retinoscopic**ᵃ, **retinoscopy**ⁿ

retraction = 1 (*beh*) withdrawal of an appendage by an organism, e g pseudopodia in ameba, limb of a vertebrate, 2 (*logic*) acknowledgment of the falsity or error of a proposition previously advanced — Ger *Zurückziehen*

retroaction = the effect of an act or experience upon the retention of a previously acquired act or experience [If the effect is favorable it is ***retroactive facilitation***, if unfavorable, it is **retroactive inhibition** These are termed also **positive** and **negative retroaction** respectively]

retroactive = affecting what is past (Pron **ret-**, not **re-**)

retroactive amnesia, see **amnesia/retroactive**

retroactive association = a connection between an item of a series and any other item which

preceded it, e g in the alphabet, z y, y-x, y-g, etc

retroactive facilitation, see **facilitation/retroactive**

retroactive inhibition, see **inhibition/retroactive**

retrobulbar = 1 situate dorsad to the medulla oblongata, 2 behind the eyeball

retrograde = 1 moving backward, 2 degenerating [Cf **anterograde amnesia**]

retrograde amnesia, see **amnesia/retroactive** (2)

retromalleolar = pert to or located in small areas lying just behind the ankle (Double accent, **ret-**, **-lee-**)

retroperitoneal = behind the peritoneum (the membrane which lines the abdominal cavity), between it and the abdominal wall (Double accent **ret-**, **-nee-**)

retrospection = 1 the mental act of reviewing past events in a systematic manner, 2 introspection based upon the immediate memory of a past experience [Distg fr **reminiscence**, which may be desultory] (Pron **ret-**, not **ree-**) **retrospect**^{v}, **retrospective**^{a} — Ger *Rückblick*

retrospective falsification = a normal or pathological experience, in which an imagination is regarded as a memory [The falsification may concern either the entire experience or certain imagined details which are imposed upon an actual memory]

retrospective reference = that characteristic of a memory experience through which is determined the location of the original experience in the temporal series

revenge = 1 the act of inflicting injury upon some individual or group, in return for an actual or imagined injury inflicted upon the individual himself, 2 the injury so inflicted [Syn (2) **vengeance**] **revengeful**^{a} — Fr *vengeance*, Ger *Rache*

reverberation = the repeated reflection of sound within an enclosure, or a pent-in area (e g a valley), which causes a single sound impulse to give rise to a continued roll or tattoo effect — Ger *Widerhall*

reverence = an attitude of solemn regard for a person or object, marked by a judgment of the superiority (usually moral superiority) of that person or object, e g reverence for one's father or mother, for a sanctuary, for God [Cf **awe, adoration**] **revere**^{v}, **reverent**^{a} — Ger *Verehrung*

reverie, revery = indulgence in an aimless train of ideas, with marked insensibility to external stimuli [Distg fr **daydreaming**, in which the course of thought is more or less actively directed toward pleasurable situations which are generally unreal Usually spelled **reverie, revery** prefd] — Ger *Traumerei*

reverse^n = the opposite [Applied esp to logical opposition or contrast] — Fr *inverse*

reverse^v = to so alter the direction of motion of an object that the same positions are assumed in the opposite order, or to so rearrange a picture, etc that every part assumes the opposite position with respect to one axis of reference **reversal**^{n} — Fr *inverser*, Ger *umkehren*

reversible = capable of being reversed [Cf **reverse**^{v}] — Fr *reversible*, Ger *umkehrbar*

reversible perspective = a type of illusion in which a given picture is seen (i e interpreted) successively in two different perspective relations, those parts which in one case appear near, appearing in the other case as farther from the observer

reversion = the inheritance from any ancestor of some trait which has not been manifest in the immediately preceding generation or ancestors [Distg fr **atavism** = reappearance of a trait present in a remote ancestor] **revert**^{v} — Ger *Ruckfall*

revery, see **reverie**

revival = the recurrence or repetition of an earlier experience, in the absence of the original stimuli [Generally attributed to **association.** Syn **recall** The revived experience is termed a **memory image**] — Fr *reveil, rappel*, Ger *Wiederbelebung*

revolution = a complete rotation, i e a rotation through 360°

reward = a positive motivating stimulus presented to the subject upon the successful termination of a complex response in order to arouse activity or assist the fixation or learning of the desired reactions [Applied to human and animal subjects in maze tests and various sorts of experiments involving choice of movements The reward may be food, sex stimuli, praise, etc Contr w **punishment** = a negative motivating stimulus, e g electric shock] — Fr *récompense, appât*, Ger *Lohn, Belohnung*

rhabdomancy, rabdomancy = (*magic*) divination by means of rods, or wands [Cf **divining rod**]

rheobase, rheobasis = the minimum potential of an electric current of indefinite duration which will (just barely) excite nerve or muscle tissue, i e the fundamental galvanic threshold of nerves or other excitable tissue (L Lapicque, 1909) [Cf **chronaxy**]

rheostat = an instrument for regulating the magnitude of an electric current by varying the resistance to which the current is exposed

rheotropism, rheotaxis = a simple orienting response to a current of water [Applied usually to orientation in the direction opposite to the flow, or to locomotion (e g of certain fish) upstream Cf **tropism**] (Accent **-ot-**, **-tax-**) **rheotropic**^{a}, **-tactic**^{a}.

rhinencephalon = a region of the brain situate in the Sylvian fissure and covered by those portions of the temporal, frontal, and parietal lobes which border the fissure [A portion of the forebrain consisting of the olfactory bulbs, peduncles, lobes (pyriform areas), hippocampal formation and fornix and their interconnections Connected chiefly with the hypothalamus and epithalamus by the fornix, medullary striae, terminal striae and medial forebrain bundle Syn **olfactory brain**]

rhinophonia = a form of **dysphonia** characterized by nasal voice

rhodopsin, see **visual purple**

rhythm = the serial recurrence of a given time interval or group of time intervals, marked off by sounds, organic movements, etc [E g the temporal sequence of tones in music, of accented syllables in poetry, of heart-beats, of alternating movements of the members in locomotion, etc] **rhythmic(al)**^{a}

Ridgway colors = a system of 1115 pigment colors, chosen so as to cover a wide range of variation in hue, saturation, and brilliance in as evenly distributed a manner as possible

[Designed originally for naming the plumage colors of birds]

right[a] = conforming to ethical or moral standards [In scientific work the term means conforming to the conditions or aims of a given experiment] **rightness**[n], **the right**[n] — Fr *correct, juste, convenable, rectitude*[n], Ger *recht, richtig*

right[n] = that side of an animal which, if the animal faces the rising sun, lies to the south [Contr w **left**] **right**[a], **dextral**[a] — Fr *droite*, Ger *Recht*

right and wrong cases/method of = a method of psychophysical measurement, developed by G T Fechner, in which two stimuli of nearly the same value are compared many times in either order, the observer being asked to distinguish between them in respect to some character (e g weight, loudness, size, etc), the percentage of correct answers being taken as the measure of discrimination [Syn **method of positive and negative cases, method of constant stimuli**] — Fr *m des cas vrais et faux*, Ger *M der richtigen und falschen Fälle*

right associates/method of = a memory method, developed by G E Muller, for use when materials to be memorized are presented in pairs, after the learning period one member of each pair is presented in turn and the subject is expected to reproduce its associate, i e the other member of the pair [Syn **method of paired associates**] — Fr *m des couples associés*, Ger *Treffermethode*

righteousness = conformity of an individual to ethical or moral standards of conduct which are conceived to be the commands of a deity or the formulation of some divinely established plan or way of living [Distg fr **rightness**, which refers to the conduct (or to behavior in general)] **righteous**[a]. — Fr *droiture morale*, Ger *Gerechtigkeit*

righthandedness, see **dextrality**

righting response, righting reaction = the movements of certain animals (e g starfish) when placed upon their back, which result in a return to the normal position — Fr *reaction de redressement*

rigid = 1 logically precise or exact, 2 tense (as applied to muscles) [Cf **rigidity/muscular**] — Ger *starr*

rigidity/decerebrate, see **decerebrate rigidity**

rigidity/hypnotic = a state of muscular contraction sometimes encountered in hypnosis [It is probably the result of suggestion emanating from the hypnotizer or from the subject, rather than an aspect of hypnosis itself]

rigidity/muscular = the state of persistent contraction of the skeletal musculature due to disturbance of extrapyramidal pathways of the central nervous system [Distg fr **contractures**, which are peripheral in origin] **rigid**[a]

ripen = to approach maturity [Properly limited to plants and applied to the fruit and seed Cf **mature**] — Fr *mûrir*; Ger *reifen*

rite = a solemn service or ceremony, established by law or custom, having usually a religious or magical significance — Fr *rite*, Ger *Ritus*

ritual = an organized system of rites or ceremonies [Applied generally to a series in which there is repetition of the same actions or spoken phrases Cf **rite**] **ritualistic**[a] — Fr *rituel*

rivalry = competition between two or more individuals or groups for certain specific objects or distinctions, without direct conflict between the individuals concerned [Cf **social facilitation**] — Fr *rivalité*, Ger *Wetteifer*

rivalry/retinal, see **retinal rivalry**

RL = stimulus limen [Cf **threshold**]

rms, see **root-mean-square value**

Roback mentality tests, see **superior adult tests**

robot = 1 a machine which simulates a human being, 2 an insensitive, unintelligent, mechanical kind of person (Pron **roe-bot**)

rod/retinal = a rod-like type of structure found in the retina of the eye which constitutes a specific receptor for vision [The rods in the human eye are 0 04 to 0 06 mm long and about 0 002 mm in diameter Distg fr **retinal cones**, another visual receptor, the **rods** contain visual purple and are believed to operate for achromatic (gray) visual qualities at low (twilight) stimulation-intensities, the cones for chromatic and achromatic at the higher levels of stimulation, the rods and cones form the 2nd layer of the retina from the outside, lying just within the layer of pigmented cells, it is estimated that there are 130,000,000 rods in the human retina, at the center of the retina there are no rods, farther out they are more numerous than the cones] — Fr *bâtonnet rétinien*, Ger *Stäbchen*

rod vision = sight or vision in which the cones of the retina are absent or play no part [Syn **twilight vision, scotopic vision**] — Fr *vision par bâtonnets, v scotopique, v crépusculaire*, Ger *Stäbchensehen*

rods and cones/layer of = the 2d stratum of the retina from without inward, consisting of the **rods** and **cones**, which are the outer parts of the visual or **neuro-epithelial** cells and constitute the end-organs or receptors for the sense of vision [Syn **bacillary layer, Jacob's membrane** Cf **rod/retinal, cone/retinal, retinal layers** and **Table XI**]

rods of Corti = elongated structures in the organ of Corti of the internal ear, whose bases rest on the basilar membrane, and whose upper ends lie between the inner and outer hair cells [There are two types, the *inner* and *outer* rods of Corti, which fuse at their upper ends to form the arches of Corti Syn **pillars of Corti** Cf **Corti/organ of**] — Fr *piliers de C* , Ger *Cortische Pfeiler*

Rolandic fissure, fissure of Rolando = a deep cortical sulcus, or furrow on the lateral aspect of each hemisphere, it arises just above the middle of the Sylvian fissure and passes dorsad and a little caudad to the vertical, ending at the median fissure it is bounded in front by the gyrus centralis anterior (the cortical locus for muscle movements) and caudad by the g centralis posterior, the locus for skin sensations [Syn **sulcus centralis**] — Fr *scissure rolandique, sillon de R*, Ger *Rolandoscher Spalt, Zentralfurche*

rolling, see **torsional rotation**

Romberg sign = the tendency of the individual to sway when standing with feet together and eyes closed, common in locomotor ataxia

Rontgen rays, see **x-rays**

root = 1 (*philol*) the common basis of a given group of similar words after removal of all grammatical inflections and allowing for the consequent modifications, 2 (*math*) in respect to an algebraic equation, a specific value of the variable which satisfies the equation, 3 (*neurol*)

a collection of fibers connected with a part of the central nervous system such as spinal cord or brain, and related to the periphery [Syn (1) **radical**ⁿ, which has a much broader connotation] — Fr *racine*, Ger (1) *Stamm*, (2, 3) *Wurzel*

root-mean-square = (*statist*) the square root of the mean of the squares of the magnitudes in question [When these magnitudes are deviations from the **mean**, it equals the **standard deviation**]

Rorschach test = a form of **ink-blot test** which features colored blots

Rosanoff association test, see **Kent-Rosanoff test**

Roscoe-Bunsen law, see **reciprocity law**

Rossolimo method = a collection of tests comprising 38 subtests of 10 items each, classified under 9 rubrics (e g attention, memory), designed to provide a psychological profile, or psychograph, of the testee's general mental capacity [Syn **Rossolimo profile method, psychograph of Rossolimo** Hist significant as an attempt to develop profile tests for analyzing general mental capacity Cf **profile tests**]

rotation = angular movement or motion about a center or axis **rotate**ᵛ, **rotary**ᵃ = characterized by rotation, **rotational**ᵃ = pert to the process — Ger *Achsendrehung*

rotation/center of, see **center of rotation**

rotation chair = a chair of special design, mounted to rotate around a vertical axis, and used to stimulate receptors of bodily motion [The Barany chair is propelled by hand, the Dunlap chair by an electric motor and magnetic clutch, the Dodge chair by an electric fan mounted as an air propeller, or oscillated in harmonic motion by crank and pulley] — Fr *chaise tournante*

rotation perception = a quality of static-sense experience induced by positive or negative rotary acceleration of the individual's body about any axis, such that one of the semicircular canals or a combination of these is stimulated — Fr *perception (sens) de rotation*

rotation table = a horizontal board poised upon a vertical pivot so as to rotate freely in the horizontal plane, the observer being placed in any desired position on the board, the instrument is used to investigate his perception of rotation [Cf **tilting board**] — Fr *planche rotative*

rote learning = the repeated utterance or observation of a phrase, sentence, stanza, or long passage in prose or poetry, until the subject is able to recite it without error or prompting, regardless of the meaning [Contr w **logical learning,** in which the meaning of the passage is used associatively to facilitate the learning process] — * Fr *mémoire brute*, Ger *auswendig lernen*

rote memory, see **memory**

rotoscope = an apparatus for providing very brief exposures in rapid succession, in order to isolate or select a certain temporal part of a complex stimulus, the observer controls the rate of repeated exposure, causing this to correspond to the repetition rate of the movement being studied [An instrument of observation to aid in investigating rapidly moving machinery]

roughness = 1 the unevenness arising from several simultaneous or successive pressure stimuli of contrasting intensity, 2 a characteristic of certain tonal sounds which undergo relatively rapid alterations of wave form or amplitude [Tonal **roughness** (2) is characteristic, e g of beats of fairly rapid frequency Syn **harshness,** which applies esp to **roughness** (2) of high degree Contr (1, 2) w **smoothness**] — Fr *sensation de rugosité*, Ger *Rauheit*

round window, see **window/round**

Rubin's goblet-profile figure = a plain white figure of a goblet on an even background of black, portrayed in such a way as to produce alternatively the perception of two faces in silhouetted profile when the white space becomes the background and the black the principal figure [Illustrative of a number of reversible figures and diagrammatic presentations of some of the principles underlying *Gestalt* psychology Cf **figure-ground**] — Fr *figure du vase à profils humains de R*

rudiment = 1 the incipient form of an organ or member, which later, in the individual or in the evolutionary line of descent, may become a complete organ or member, 2 (*hist*) a degenerate form of an organ which was at one time more completely developed [The term **vestige** is prefd for (2)] (Accent ru-) **rudimentary**ᵃ. — Fr *rudiment, ébauche*

Ruffini corpuscle (or **cylinder**) = a type of branched nerve end-organ, mostly located in subcutaneous tissue [Believed by some writers to arouse warmth sensations Distg fr **Ruffini's papillary endings** Dogiel, who discovered them, identified the two, and considered the latter a variant and called them *arboriform terminations*] — Ger *Ruffinisches Koperchen*

Ruffini papillary endings (or **plumes**) = nerve end organs located in the papillary layer of the skin [Believed by some writers to arouse pressure sensations] — Fr *terminaisons nerveuses papillaires de Ruffini*

rule = a working principle for regulating behavior or conduct [In ethical contexts, a **rule** is usually regarded as arbitrarily imposed, contr w a **law,** which springs from the nature of things In practical contexts (including the conduct of scientific or scholarly reasoning or investigation) a **rule** states what is most useful or workable Distg fr **maxim** a more popular and less systematic working principle, and fr **canon,** a more general working principle In science contr w **law,** a statement of some general uniformity existing in nature Cf **principle**] — Fr *règle*, Ger *Regel*

rumor, rumour = an unverified story or report, purporting to represent actual occurrences, which circulates in a given community, and is often communicated inaccurately

Russmethode = a procedure in which smoke rings from a small gas jet are deposited on a continuously passing ribbon of paper (Marbe) [The pulsations of the voice cause variations in the supply of gas fed to the flame A time-line is similarly recorded by means of an electrically driven tuning fork Ger]

S

S = abbrev for **subject** (2) [Prefd italic without period, plural *S*s, possessive *S*'s, *S*s']

S = 1 abbrev for **stimulus,** 2 abbrev for **sensation** or sensory intensity, when **R** is

abbrev for stimulus [Prefd roman cap, without period Cf R]

S D = abbrev for **standard deviation**

s factor, specific factor = a psychoneural element, or determiner of ability, according to the two-factor doctrine of intelligence, which, in contradistinction to the **general or g factor,** varies for the same individual with different abilities (e g dancing and juggling), and is independent of the (general) g factor, which is relatively constant for the individual (Spearman) [Cf **g factor, two-factor theory of intelligence**]

sac = any bag-like structure in the body of an organism

saccadic movement = sudden movement of the eyes from one fixation point to another [Contr w **pursuit movement**]

saccadic speed = the rate of angle-velocity of the simple eye movements which separate successive visual fixations, e g in ordinary reading — Fr *vitesse de saccade*

saccadic time = the sum of the time intervals during which the eye is in motion when reading, as contr w the fixation time — Fr *temps de saccade*

saccule, sacculus = one of the two sac-like dilatations of the membranous labyrinth of the vestibule within the inner ear, which communicates with the cochlear duct and with the endolymphatic duct [Distg fr **utricle**] — Ger *Säckchen*

sacral nerve = any of the spinal nerves which join the cord in the sacral region [There are 5 pairs Cf **sacrum**]

sacral segment = the portion of the spinal cord situate near the caudal extremity, which gives rise to the five sacral nerves [Applied also to the corresponding portion of the autonomic system]

sacred = characterizing a state or quality belonging to a divine being or power, and (by association) to persons or objects connected with a divinity or its worship [Syn **hallowed** Contr w **profane, secular** Cf **taboo**] — Ger *heilig, geheiligt*

sacrospinal reflex = a contraction of part of the sacrospinal muscle, elicited by scratching the skin along its lateral border [Mediated by the thoracic region of the cord Syn **dorsal r, erector spinal r, lumbar r**]

sacrum = a triangular bone situate near the base of the spinal column above the coccyx, and forming the dorsal part of the pelvis (Accent **say-**) **sacral**[a], **sacrad**[adv] — Ger *Kreuzbein*

sadism = a type of sexual perversion, characterized by pleasure, or sexual gratification, in whipping or otherwise maltreating individuals of the same or opposite sex [Syn **active algolagnia** Contr w **masochism,** in which the individual takes pleasure in being maltreated] **sadistic**[a]

sadness = an emotional attitude characterized by unpleasant feeling tone and expressing itself in sighing, weeping, and passivity and diminished tone of the voluntary muscles [Syn **sorrow, grief, despair** = more intense, contr w **joy**] — Fr *tristesse*, Ger *Traurigkeit*

sagittal axis = 1 in man, any line passing through the body in a dorsoventral direction, 2 the line of direction in the eye and in the visual function, which connects the center of the retina with the center of the lens and pupil, together with the projection of this line in the field of vision beyond the eye (Accent **saj-**)

sagittal plane = any plane of the body parallel to the mesial (or medial) plane (Accent **saj-**)

Saint Vitus' dance, see **chorea**

salesmanship/institutional = effort designed to promote a favorable attitude toward an entire industry, commodity, or service, irrespective of any particular firm or brand [E g institutional advertising of life insurance, or of electric power] — Fr *propagande*

saline, salty = a quality of gustatory sensation of which the taste of common salt (sodium chloride) is a typical example [Cf **gustatory qualities**] — Fr *salé*, Ger *salzig*

saliva = the watery, viscous, and somewhat opalescent fluid containing many constituents including mucin and the amylolytic enzyme, ptyalin, which is secreted by the salivary glands and discharged into the buccal cavity [The composition of saliva may vary from gland to gland and from time to time Saliva has the function of assisting in mastication and swallowing and in the digestion of starch] **salivate**[v] = to produce a flow (usually excessive) of saliva, **salivary**[a] = pert to **saliva** — Ger *Speichel*

salivary apparatus/Pavlov's, see **Pavlov's experiment**

salivary glands = a system or group of glands with ducts opening into the mouth cavity whereby they discharge saliva, which assists in mastication and swallowing and contributes an enzyme, ptyalin, concerned in the digestion of starch [In man the principal salivary glands are the paired parotid, sublingual, and submaxillary or mandibular glands, other smaller glands of the mouth and pharynx also produce saliva] — Ger *Speicheldrusen*

salivary reflex = a process involving any increase, decrease, or change in the specific secretory activity of one or more salivary glands, due to excitation or inhibition of their efferent nerves resulting from stimulation of an afferent nerve [Mediated by lingual nerve to secretory centers of VII and IX cranial nerves Cf **Pavlov's experiment**] — Ger *Speichelreflex*

Salpêtrière school = the systematic views on abnormal psychology and hypnosis held by J M Charcot (1878 ff) in his neurological clinic at the Salpêtrière in Paris [This school emphasized the importance of hysteria, and it regarded hypnosis as an abnormal hysterical phenomenon, contr w the **Nancy school** (Bernheim) which regarded hypnosis as a normal phenomenon of suggestibility]

salpinx = the oviduct [Syn **fallopian tube**] **salpinges**[pl] — Fr *trompe*

saltation, see **mutation**

sameness = absence of essential change in a sense datum, situation, or any complex unity at two different times [Contr w **difference** Distg fr **similarity,** which characterizes two separate data, etc, between which there is no essential difference] — Fr (*impression d'*) *identité*, Ger *Gleichheit*

same-opposite test, see **synonym-antonym test**

sample, see **sampling** (2) — Fr *échantillon*

sampling[n] = 1 the selection (for statistical treatment) of a limited number of cases taken at random out of an entire group or population, i e taken without preference or regard to any characteristic, the assumption being that these

randomly taken cases are representative of the entire group, 2 the small representative group employed in sampling (1) [Syn (2) **sample, sample group, unselected group**] **sample**[v] — Fr (1) *échantillonnage*, (2) *groupe-type*

sampling/errors of = deviations of the values yielded by a sample, from the values yielded by the entire population [They are due to the fact that this random group or sample is not exactly representative of the whole Cf **sampling**] — Fr *erreurs d'échantillonnage*

sanction = 1 (*psychol*) the ground or reason for an individual's action whether consciously formulated or not, 2 (*sociol*) any means by which officials or other agents of a social group induce or compel the individual to act in conformity with the standards commonly accepted in the group, e g legal, moral, religious — Ger (1) *Bestätigung*, (2) *Sanktion*

Sanford envelopes = a set of envelopes, similar in visual appearance but weighted so as to form a progressive series, used to test the discrimination of lifted weights [Devised by E C Sanford]

sanguine = a type of temperament which combines active expression with a pleasant feeling-tone, and is characterized by enthusiasm, changeableness, and freedom from load [Hist attributed to the predominance of the blood in the body as against the other humors Cf **temperament** (1)]

sanity = the normal mental condition of the human individual [Contr w **insanity**] **sane**[a] — Fr *santé mentale*

Sanson images, see **Purkinje-Sanson images**

santonin = the active principle of *Santonica*, or Levant wormseed, a crystalline drug, odorless and colorless, insoluble in cold water [It is an efficacious vermifuge for *Ascaris lumbricoides*, or round-worm In large doses it produces yellow vision, headache, vertigo, and convulsions Lat Santoninum]

Santorini's cartilages, see **corniculate cartilages**

Sapphism = erotic attachment of women to one another [Cf **Lesbian, cunnilingus**]

sarcasm = (*esth*) a form of wit concerned with ridiculing vice, folly, etc [Distg fr **humor**, which is subjective in reference, and fr **irony** in being more severe and less dramatic]

sarcode = the jelly-like substance which constitutes the living matter of a protozoan (Dujardin)

satire = (*esth*) sustained sarcasm in finished oral or literary form — Ger *Spott, Spottgedicht*

satisfaction = an attitude characterized by a feeling of pleasantness and motor quiescence, usually due to the onset of a situation which has been previously pictured and the idea of which has aroused motor activity [Contr w **dissatisfaction** = characterized by unpleasantness and unrest] — Ger *Befriedigung*

satisfier = any stimulus or situation which fulfills or extinguishes the fundamental wants or desires of the individual [Contr w **annoyer**, these terms are emphasized by Thorndike]

Sattler's elastic layer = a thin layer of elastic connective-tissue fibers situate in the choroid coat of the eye, between the layer of large blood-vessels and the inner layer of capillaries — Fr *couche élastique de S*

saturation = 1 the degree to which any color possessing a hue differs from a gray of the same brilliance, 2 that condition of a liquid which marks the degree to which a chemical substance (e g a salt) has been dissolved in it [Syn (1) **chroma, tint** A pure color (or hue), in which only a single wave length is effective, is said to be **completely saturated**, a mixture in which no single wave-length predominates, or which is complementary to no single wave-length, is **completely unsaturated** Contr (1) w **hue** and **brilliance** Cf (1) **color**] — Ger *Sättigung*

saturation scale = a scale of numbers applied to a series of color-stimuli that are held to be alike in hue and brilliance but different in saturation, parallel to a corresponding scale of desaturation in terms of stimulus, and such that adjacent numbers represent stimuli which are just noticeably different [Such a scale usually involves a spectral or highly saturated stimulus progressively desaturated by the suitable substitution of white light or a gray component, the number of steps in the scale depends somewhat upon the method of experimentation, and also upon the hue, e g the normally most saturated extreme spectral colors, red and blue, yield a maximum of 24, while a minimum of 17 is found for the intermediate yellow of wave-length 575 $m\mu$]

satyriasis = 1 an exaggerated degree of sexual desire in the human male, 2 erotic insanity [Analogous to **nymphomania** = in the female Cf **erotomania**]

Savart wheel = a disk bearing around its entire circumference a set of teeth placed at uniform distances, when the wheel is rotated, the teeth strike a tongue, producing a succession of clicks which in rapid rotation merge into a tone, the pitch varying with the speed of rotation [Used to investigate tonal pitch in relation to vibration frequency] — Fr *disque de S*

saving method = a method of determining the degree of retention of learning, by measuring the time required to learn a given amount of material and the time required to relearn the same material after some standard time-interval, and computing the percentage of the latter as compared with the former [Used by Ebbinghaus in his pioneer work on forgetting, 1885] — Fr *m d'économie*, Ger *Ersparnismethode*

scala media (cochlearis) = the smallest of the three tubes into which the cochlea is divided, it contains the **organ of Corti** [Cf **cochlea, cochlear duct**] — Ger *Schneckenkanal*

scala tympani = one of the two large spiral tubes into which the cochlear canal is divided by the **spiral lamina** and **cochlear duct** [It extends from the round window at the base of the cochlea to the apex, where it communicates with the second large tube, the **scala vestibuli**, through an opening called the **helicotrema**] — Fr *rampe tympanique*, Ger *Paukentreppe*

scala vestibuli = one of the two large spiral canals into which the cochlea is divided, separated from the **scala tympani** by the **spiral lamina** and **cochlear duct**, and extending from the oval window at the base of the cochlea (where it receives the auditory stimuli from the stapes) to the apex, where it connects with the **scala tympani** through the **helicotrema** [Like the **scala tympani**, it is filled with a fluid, the **perilymph**] — Fr *rampe vestibulaire*, Ger *Vorhofstreppe*

scale = 1 (*math*) a progressive system of values, each of which constitutes a standard, used in measuring data of some specific sort — Fr (1) *échelle*

scale = 2 (*mus*) a graduated series of pitches arranged in a conventional scheme of steps or intervals [Most scales, including all modern European forms, are founded on the octave, and the scheme of division is repeated for each octave of the musical range The **Pythagorean scale**, from which modern scales were derived, was formed by combining two Greek tetrachords, and was made up of two kinds of intervals, the tone and the hemitone, in a variety of arrangements, two of which, the Lydian and the Hypo-Dorian, divided the octave in the manner indicated in Diagrams 1 and 4, where the size of the intervals is indicated in tempered semitones = a vibration ratio of 1 $2^{1/12}$ (The size of the intervals in all the diagrams may be indicated in the conventional unit of the **cent** by multiplying each number by 100) **The major diatonic scale** (used in modern music) was derived from the Lydian form by the adjustment of certain tones to increase the harmonic possibilities of the scale, see Diagram 2 (a) The **minor diatonic scale** was derived from the Hypo-Dorian form, but has been considerably modified by assimilation to the major diatonic scale, it has three modern forms (*a*) the *pure* or *ascending form*, which corresponds to the Hypo-Dorian except for the alteration of minor tone and semitone intervals, this type is still used in descending melodies, (*b*) the *harmonic form*, in which the terminating intervals have been altered to make it possible to close a musical sequence with a *perfect cadence*, i e a major third (E–G sharp) followed by a perfect fourth (E–A′), (*c*) the *ascending melodic form*, in which the large interval of an augmented second of the harmonic form has been avoided by changing the F to F-sharp, thereby affording a smoother melodic effect, this form is common in ascending melodies See Diagram 5 The **chromatic scale** consists of the diatonic scale, together with a varying number of additional tones which serve the purposes of embellishment and of permitting passage from one key to another One form of chromatic scale is shown in Diagram 2 (b) The **equal-tempered scale** consists of twelve equal semitones to the octave, as shown in Diagram 3, the notes approximate those of the major, minor, and chromatic scales and make it possible on keyed instruments to execute music written for any of these scales, and to pass readily from one key to another, this scale has the outstanding disadvantage that all the intervals, except the octave, are slightly mistuned There are numerous other scales, both historical and modern, consisting of varying numbers of steps or divisions of the octave or of some other arbitrary compass, of these the most notable are **tetrachords** = four-tone scales used by the ancient Greeks, **pentatonic scales** = five-tone scales common in Oriental and other music, and **heptatonic scales** = seven-tone scales, developed from the Greek tetrachords See Table VII] — Fr (2) *gamme*, Ger *Tonleiter*

scale/mental = a series of standard values of mental development or mental age, based upon the individual's ability to answer or solve a set of graded tests [Often confused with the tests themselves, but the Binet-Simon *tests* (e g) may be evaluated according to either the **Binet-Simon scale** or the **point scale**, and the evaluating principle of the Binet *scale* may be applied to other series of tests] — Fr *échelle mentale*

scale/tonal = 1 the extent of vibration-frequencies perceptible to the average human ear as sound, i e the tones from about 20 to 20,000 cycles per second, 2 any arbitrary set of tones selected from the above range [Cf **scale** (2)] — Fr *échelle tonale*

scale value = the numerical value attaching to a test item, which places it in its proper position in relation to other test items as regards difficulty, attitude, interest, or other characteristics measured by the items — Fr *valeur numérique en échelle*

scaphocephalic = having a keel shaped head

scapula = the shoulder-blade (Accent **skap-**) **scapular**[a]

scapular reflex = contraction of the scapular muscle elicited by scratching the skin over the scapula, or between the scapulae [Mediated by 5th cervical to 4th thoracic segments of the cord Syn **interscapular r**]

scatter = the spread, variability, or dispersion of the items which compose a statistical series — Fr *dispersion*, Ger *Streuung*

scatter diagram, scatter plot = a double entry or two-way table, showing the relation between two series of paired measures — Fr *tableau de distribution, pointage de regression*

scent = gaseous particles given off by a substance, which act as stimuli to the olfactory receptors, 2 syn for **odor** [The technical use of the term is preferably limited to (1) to avoid ambiguity Cf **olfaction, odor**] — Fr *odeur*, Ger *Duft*

Schafhantl phonometer, see **audiometer**

Scheiner's experiment = a demonstration of visual accommodation, in which the eye is covered with a card, provided with two pinholes that are separated by a distance less than the pupillary diameter, objects at a distance either less or greater than that of the focus of accommodation are seen double [The other eye should be closed]

schema = 1 a formula, model, outline, or plan, by the application of which a body of data may be systematically arranged for scientific purposes, i e a framework for the systematic presentation of data, 2 the standard resulting from previous postures and movements of the body, against which all postural changes are measured or to which immediate reference is made when a fresh position is recognized (Head) [According to Head, this standard lies outside consciousness, every recognizable change in posture enters consciousness already charged with its relation to something which has gone before, and the final product is directly perceived as a measured postural change And similarly with recognition of the locality of stimulated spots on the body Distg (1) fr **scheme** which has a more active meaning] **schemata**[pl], **schematism**[n] = the use or working out of schemata, or the quality of being schematic **schematic**[a] (more generally coupled with scheme)

schematic eye, see **reduced eye**

scheme = a plan, device, outline, or systematic project [In science the term emphasizes the orderly nature of the plan, or program] **schematic**[a] (also = in outline, diagrammatic) — Fr *plan, projet*, Ger *Entwurf, Plan*

schizoid = 1 a personality type in which the interest or libido is directed more to the inner life than to the external world (Bleuler), 2 a shut-in or introverted personality, unsocial given to fantasy, whose emotional life is more or less dissociated from his ideational content,

PYTHAGOREAN SCALE

(Lydian Form)

Diagram 1

MAJOR DIATONIC AND CHROMATIC SCALES

Diagram 2

EQUAL-TEMPERED SCALE

Diagram 3

PYTHAGOREAN SCALE

(Hypo-Dorian Form)

Diagram 4

MINOR DIATONIC SCALES

(a) Pure or Descending Form (b) Harmonic Form (c) Ascending Melodic Form

Diagram 5

due to abnormal mental development (Kretschmer), 3 resembling or pert to **schizophrenia,** to which individuals of this type are subject [Contr w **syntonic**]

schizophrenia = syn for **dementia praecox** (Bleuler) [Literally "splitting of the mind" **schizophrenia** has largely replaced **dementia praecox** in scientific usage It avoids the implications regarding age of onset and outlook for deterioration, and emphasizes the dissociative phenomena, e g hallucinations, fantastic delusions, and disorganized emotional life, in the presence of relative intellectual preservation Somewhat broader than **dementia praecox,** since it includes, on the basis of dissociative symptoms, cases that would scarcely have received the earlier designation] (Pron skiz-) **schizophrenic**[a]

schizothymia = manifestation of schizoid traits within normal limits (Kretschmer)

Schlaftiefenmesser = an apparatus intended to measure the depth of sleep (Kraepelin), at fixed temporal intervals it automatically releases a series of balls of constant weight, from increasing heights, which fall upon sound-boards and disturb the sleeper, who is instructed to stop the apparatus at the instant of awaking [The height from which the last ball fell is arbitrarily taken as a measure of the depth of sleep Ger]

Schlemm's canal = a small ring-shaped channel in the sclera of the eye, close to its junction with the cornea, forming the outlet through which the aqueous fluid finds its way back into the general circulation

scholastic = 1 pert to a school, 2 pert to medieval philosophy **scholasticism**[n] (2)

school = 1 an institution of instruction and learning of any grade, 2 the body of adherents to some specific theory, doctrine, method, or leader [When used without qualification (1) generally denotes in America an institution of primary or secondary level] — Fr *école*, Ger *Schule*

schooling = systematic instruction — Fr *instruction, ecolage, enseignement*, Ger *Unterricht, Schulerziehung*

sciatic nerve = the large peripheral nerve which connects the receptor and effector organs in the leg with the spinal cord — Ger *Hüftnerv*

science = organized or systematic knowledge [**science** denotes the systematic investigation of some specific field or coherent group of phenomena Distg fr **art, technology,** and **desultory knowledge**] **scientific**[a]. — Ger *Wissenschaft*

scientific management = a term (first used in 1910) to denote the system of doctrines and broad general principles derived from industrial experiment, by F W Taylor and his associates beginning in 1881, it emphasizes the primary importance of scientific attitude in the accomplishment of predetermined objectives, and implies the detachment or impartiality which arises from factual and objective thinking, and the philosophy of control, in contrast to drift [Syn **Taylorism,** which is also applied to the special system devised by Taylor]

scientific method = a systematic program for the acquisition of exact knowledge [Cf **method, methodology**]

sciosophy = any system of thought or belief, the grounds of which are at variance with contemporary scientific knowledge, e g modern **astrology, theosophy,** and **phrenology** [Contr w **science** Cf **superstition**] **sciosophist**[np]

sclera, see **sclerotic**

sclerosis = hardening of the neural or other tissues of the body

sclerotic, sclerotic coat = the white outer fibrous coat of the eyeball, primarily a supporting or skeletal structure [Syn **sclera** Cf **cornea**] — Fr *sclérotique*

scope = the entire group of phenomena, events, or general data which properly fall within the limits of a given inquiry — Fr *étendue, portée*, Ger *Bereich*

scopic method = that method of observing quantitative results in which the values are seen and recorded by the experimenter [Contr w **graphic method,** in which the values are recorded often by the apparatus itself]

scopophilia = sexual pleasure derived from looking at the human form, articles of apparel, etc or from observing sexual acts [Syn **inspectionism** The passive counterpart of **exhibitionism** Sometimes improperly written **scotophilia** or **scoptophilia**] **peeper**[np] (*pop*) — Fr *voyeurisme*, Ger *Schaulust*

score = 1 a credit or weighted value assigned to a specific response made to a test item, 2 the sum or other composite result obtained from compiling the responses of an individual to all the items of a single test, or battery of tests **scoring**[n] = the process or method of obtaining a score **score**[v] — Fr *note, notation, dépouillement*[n]

score/raw, /standard, etc, see **raw score, standard score,** etc

scorn = an emotional attitude toward another person, class or group, norm, or plan of action characterized by dislike tinged with disgust, and by a feeling of superiority to the person class, or plan in question **scorn**[v] — Fr *dédain*, Ger *Verachtung, Spott*

scoterythrous = characterizing a type of color vision in which long wave-length stimuli are lessened in effectiveness or darkened [A peculiarity of **protanopia,** and of certain forms of **anomalous trichromasy** Suggested by Rivers to replace the non-descriptive term **protanopic** Contr w **photerythrous**]

scotoma = a blind or partially blind area of the retina usually due to a pathological condition [Classed according to location as **central, paracentral** (near the macula) and **peripheral,** according to character as **positive** (seen as a black spot), **negative** (not ordinarily noticed), **absolute** (excluding even light-perception), **relative** (function not wholly lost), **ring** (surrounding the macula), **scintillating** (giving sparks or flashes of light), **physiological** (syn for **blind spot**)] **scotomata**[pl]

scotometer = (*ophthal*) an instrument, similar in principle to the **perimeter,** used for determining the location and the limits of **scotomata** in the visual field [Cf **scotoma**]

scotomization = (*psychoan*) a process of psychic depreciation, by means of which the individual attempts to deny everything which conflicts with his ego (Laforgue)

scotophilia, see **scopophilia**

scotopic adaptation = syn for **dark-adaptation,** but with more explicit reference to the part played by the rod-system of the retina [Cf **adaptation** (2)]

scotopic vision, scotopia = vision which occurs in faint light, or after dark adaptation [It is attributed to the operation of the retinal rods Syn **twilight vision** Distg fr **daylight** (or **photopic) vision**]

scratch reflex = scratching movements of hind leg of an animal, elicited by sticking or pricking the flank, back, or neck — Fr *réflexe de grattage*, Ger *Kratzreflex*

screen memory = (*psychoan*) fragments of recollection which break through the childhood amnesia but are represented through processes of condensation and displacement by something trivial [More accurately descriptive than syn **cover memory**, which implies a process of concealment] — Fr *souvenir écran*, Ger *Deckerinnerung*

script = the characters which constitute handwriting, or type which imitates them — Fr (*écriture*) *anglaise*, Ger *Schrift*

Scripture weights = a set of small elder-pith disks, 3 mm in diameter, suspended by a fine cocoon-fiber, each from a separate handle, they form a graded series of weights, 1 mg, 2 mg, 3 mg, to 10 mg or to any desired magnitude, the stimulus limen for pressure is determined by finding the lightest disk which, when applied carefully to a given area, evokes a perceptible pressure sensation [Named for E W Scripture, similar weights were used by Aubert and Kammler (1858)]

scruple = a minor ground of hesitation, involving ethical considerations, in respect to some proposed course of action [Usually implies that the person feeling or exhibiting it is sensitive to ethical considerations even of slight importance] — Ger *Bedenklichkeit*

scrying = (*psych res*) the process of inducing visual hallucination or projected visual imagery by gazing into a crystal sphere, or other translucent or reflecting body or substance [Forms of objects, faces, or figures are seen or events are witnessed in the crystal Syn **crystal-gazing** Cf **automatism, cryptesthesia**] — Fr *cristalloscopie*, *vision au cristal*

sculpture = the art or act of producing solid or three-dimensional representations of a more or less permanent character

sea-anemone = an animal of the phylum Coelenterata and class Actinozoa, which is devoid of an external skeleton and commonly attached to rocks or other support [It possesses a primitive nervous system but no central nervous system] — Fr *actinie*

séance = (*psych res*) a sitting, usually in a darkened room, for the purpose of obtaining metapsychic phenomena [The duration of a sitting is commonly from three to five hours, conditions are favorable for **malobservation, illusion** and **hallucination**, the medium and the "spirits" retain control of the phenomena]

Seashore audiometer, see **audiometer**

Seashore measures of musical talent, Seashore test of musical ability = a series of phonographic records, with manual of instructions and norms and blanks for recording results, used in measuring specific and relatively elemental musical capacities, such as tonal memory and the sensory discrimination of pitch, intensity, time, rhythm, timbre, and consonance [They form part of a battery of other measures of musical ability not yet phonographically recorded but standardized in terms of laboratory techniques]

seat of mind, seat of consciousness = a region of the brain assumed to be the location or central controlling area for mind, or consciousness [(Hist), originally the **seat of the soul** and not considered as necessarily localized in the brain] — Fr *siège de l'esprit*, Ger *Sitz der Seele*, — *des Geistes*

sebaceous gland = a type of gland, scattered over almost the entire surface of the skin except the palms and soles, which secretes an oily liquid

seclusiveness = a tendency, frequently pathological, of an individual to cut himself off from social intercourse — Fr *isolement*

second (*mus*), see **interval** and Table VII

second sight, see **clairvoyance**

secondary attention, see **attention.**

secondary automatic = characterizing certain types of response, which have become automatic only after repetition or practice

secondary elaboration, see **elaboration/secondary**

secondary function = the tendency for every nervous process which arouses in the mind an idea, to persevere for some time after its proper function has been fulfilled, as an after-function, which, however, no longer has anything in consciousness to correspond with it [It is this activity which determines, according to its exponent Otto Gross, the determined, persevering, intensive and concentrated type of individual]

secondary function type = an individual who is dominated by the secondary function, showing signs of a narrow but deep consciousness, and possessing the characteristics of persistence, stubbornness, introversion, intensiveness, inflexibility, etc

secondary personality, see **personality/secondary**

secondary position = (*vis*) any position of binocular fixation other than the **primary position**

secondary process = (*psychoan*) the psychical process which inhibits primary processes and directs the energy into more complex paths [Contr w **primary process**]

secondary qualities = 1 (*hist*) the properties of stimulus objects which enable them to arouse sensory qualities that do not resemble the properties of the stimulus, e g the arousal of a tone by a sound wave, 2 less technically, the sensory qualities thus aroused [Contr w **primary qualities,** which are assumed to be more fundamental The two terms originated with Locke]

secondary sensation = a concomitant sensory experience which is aroused by a stimulus in addition to the appropriate experience, e g the visual sensations in colored hearing [Cf **synesthesia**]

secondary sex (or **sexual**) **character** = any structural, physiological, or mental character which serves to differentiate the two sexes, but which apparently plays no direct role in the functions of reproduction [E g the horns of male deer, brilliant plumage of male birds, facial hair in human males Contr w **primary sex character** Cf **sex character**]

secondary tympanic membrane = a thin membrane, which covers the round or cochlear window of the vestibule [It oscillates in and out in accordance with the alternating pressures exerted on the perilymph by movements of the stapes at the oval, or vestibular window Cf **window/round**]

secretin = a term applied by Bayliss and Starling to an active substance yielded by the epithelial cells of the duodenum, when this substance is in the blood stream, digestive glands, more particularly the pancreas, at a distance are excited to action independently of the nervous system [Syn **autacoid of duodenum**]

secretion = 1 the specific chemical substances (usually in solution) or cells in suspension, or both, produced by the activity of a gland or other tissue, and physiologically serviceable, 2 the process by which gland cells, by expending energy, form and discharge a **secretion** (1) [Distg (1) fr **excretion** = waste products in solution or suspension, and (2) fr the production of material by diffusion or filtration through cells without the active intervention of the cells] **secretory**[a] = pert to secretion (1, 2) **secrete**[v] (2) — Ger (1) *Absonderungsstoff Sekret*, (2) *Absonderung, Sekretion*

sect = a group or party of persons who adhere to certain opinions or practices or both, or follow a certain leader [In religion, applied to those holding to a common creed or cult, or following a certain leader]

section = 1 (*anat*) a thin slice cut, usually transversely, from the brain or cord, 2 the cutting or destruction of a nerve, muscle, etc at some point — Ger (1) *Schnitt*, (2) *Sezierung*

section/golden, see **golden section**

sectional sensitivity = a value of sensitivity which is measured by "equating and differentiating two supraliminal sense distances" or sections cut from the whole sense continuum (Titchener)

secular = 1 (*soc*) characterizing cultural change which takes place continuously and always in one direction, 2 (*pop*) pert to things, persons, or activities which are not religious [Distg (1) fr **cyclical change**, in which culture is regarded as proceeding in cycles In science, the progress has been *secular*, i e toward the accumulation and retention of the same type of culture In government, changes have been *cyclical*] — Ger (1) *sacular*, (2) *weltlich*

security = (*indiv psychol*) a state in which conquest is guaranteed without struggle

seed = 1 (*bot*) a fertilized ovule with an embryo formed within it, 2 (*zool*) the male fertilizing element, 3 (*pop*) syn for offspring — Fr *semence*, Ger *Same*

segment/behavior, see **behavior segment.**

segmental reflex = a reflex mediated by a single region of the cord [Strictly, the term is incorrect, since more than one cord segment may be involved **regional reflex** prefd]

segmental static reaction = a static reflex which involves one region of the body on both sides, e g both hind limbs, both front limbs trunk, or neck [**regional static reaction** prefd]

segmental theory of the nervous system = the doctrine that each segment of the nervous system, in segmented animals, regulates and controls primarily (or exclusively) the activities of the corresponding segment of the body

segmentation = 1 progressive division of the original germ cell into many cells, 2 the division (usually in embryonic stages) of the body of higher animals into a series of segments or **metameres** **segmented**[a] (2)

segregation = 1 the reappearance, in the second or a subsequent filial generation, of characters which were not evident in the first filial generation (i e recessive characters) but which were evident in one of the parents, 2 syn for **isolation**, 3 (*Gestalt*) a product of dynamic self-distribution, which results in the phenomenal appearance of certain wholes detached from their surroundings without recourse to previous knowledge (Kohler)

segregation/law of = the principle that characters in which parents differ come to be segregated out in the second generation of their progeny in a definite numerical ratio [Where only one character difference is involved, this ratio is typically three of the dominant to one of the recessive trait] — Fr *l de segregation*

segregation/psychical, see **psychical segregation**

seizure = a sudden onset or recurrence of a disorder, e g a convulsive seizure in epilepsy — Fr *crise*

sejunction = an interruption of the continuity of associative processes, which leads to the breaking up of the unitary personality of an individual (Wernicke)

selected group = a group of individuals among whom there is more than random similarity in respect to the particular characteristic or characteristics in question [**selected groups** sometimes occur by accident and are sometimes assembled deliberately A selected group may be representative of a larger selected group of the same sort, but not of a **random group** A given group of individuals may be at once **selected** as regards one characteristic and **random** as regards another Syn **selected sample, biased sample** Contr w **random group**] — Fr *groupe selectionne*

selection = the picking out or emergence of a character, an object, or a phenomenon, from a group of alternatives in accordance with some standard or principle [Syn **choice**, which implies voluntary activity, **selection** includes also the emergence of one member of the group in other ways Cf **natural selection**] **select**[v], **selective**[a] — Fr *choix, sélection*, Ger *Auslese, Wahl*

selection/method of = a procedure used in certain experiments, in which the observer picks out from a series that object, figure, etc, which he judges as equal to a previously presented standard object, etc

selection/natural, see **natural selection**

selection/social, see **social selection**

selection/vocational = the process of choosing from a group of applicants for a vocation those most likely to succeed in that vocation [Distg fr **guidance/vocational**, which aims to assist the individual in choosing from among many possible vocations] — Fr *selection professionnelle*

selectionist = one who holds the doctrine of natural selection, as an explanation of the process of organic evolution

selective action = an action which is multiply determined, and not singly as in impulsive action [Cf **impulsive action**]

selective agent (or **agency**) = any factor or combination of factors in the environment, through whose operation the process of natural selection is brought about

selective response (or **reaction**), see **discrimination response**

selective synthesis = the connection or association between successive thoughts in a train. [Cf **selective thinking**]

selective thinking = the succession of thoughts in a train, regarded as determined, each in turn, through a process of selective association, or synthesis — Fr *pensée sélective*

selective value = the relative importance of any given factor or combination of factors in determining the progress or rate of change in the evolution of organs, or of species, through natural selection — Fr *valeur sélective*

selenium cell = a device used to detect changes in the quantity of light, by means of the chemical element selenium, whose electrical resistance changes with the amount of light falling upon it

selenium dog = a device used by J H Hammond and B F Miessner to illustrate the role of stimuli in determining the direction of responses, it consists of a pair of selenium cells, representing eyes, placed on the front end of a wheeled contrivance, representing an artificial dog, the cells are separated by an opaque, projecting partition like a nose, which cuts off the light from one side or the other the cells operate the wheels in such fashion that the dog follows a moving light at night in whatever direction the light is moved

self = an individual regarded as conscious of his own continuing identity and of his relation to the environment [Syn **ego,** used in contr w **alter** (other being) or **non-ego** (environment) Hist divided into **rational self** and **empirical self** Cf **mind** (impersonal)] **self**[a] — Fr *le soi*, Ger *Selbst*

self-abasement = social behavior accompanied by a feeling of inferiority and characterized by humility and by extreme submission to the will or dictates of others — Fr *abaissement de soi-même*, Ger *Selbsterniedrigung*

self-absorption = an extreme manifestation by an individual of abstraction from external stimuli and outer events — Fr *absorption*

self-accusation = false or exaggerated and morbid self-incrimination [Common in depression and occasionally in hysteria] — Fr *auto-accusation*, Ger *Selbstanklage*

self-activity = changes within the conscious individual which are determined by himself, for the most part, without other conditioning factors — Fr *activité propre*, Ger *Selbsttätigkeit*

self-assertion = a tendency to emphasize one's own importance in the presence of other individuals or in dealing with others [Used also (*pop*) to designate a characteristic endeavor on the part of an individual to avoid submitting to another In animals the tendency appears in the form of **self-display** Cf **ascendence**] — Fr *affirmation de soi*, Ger *Selbstbehauptung*

self-consciousness = 1 awareness of one's own existence and activities, usually in relation to other individuals or objects, 2 (*pop*) embarrassment **self-conscious**[a] — Fr *conscience de soi*, Ger *Selbstbewusstsein*

self-consistency = the character of a theory, etc , such that the various phases, items, etc , of the situation which it describes are all mutually compatible [Cf **consistency** Contr w **self-contradictory**[a]] **self-consistent**[a] — Fr *cohérence*, Ger *Widerspruchsfreiheit*

self-control = 1 the ability of an individual to repress emotional expression and to guide his own behavior appropriately in social situations, 2 the exercise of this ability **self-controlled**[a] — Fr *empire sur (maîtrise de) soi-même*, Ger *Selbstbeherrschung*

self-deception = the fact of drawing a false conclusion, owing to some bias or strong motivation [Syn **rationalization**, a broader term Cf **deception**] **self-deceived**[a] — Fr *auto-duperie*, Ger *Selbstbetrug*

self-denial = the attitude of refusing to satisfy one's own wants, desires, and ambitions — Ger *Selbstverleugnung*

self-determination = the determination or guidance by an individual of his own conduct and behavior through inner or personal initiative, as distg fr determination by social norms or by the general environment [The doctrine of self-determination is closely related to that of **free-will** Contr w **cultural determinism** = the theory that the culture or pattern of society molds the behavior of the individual and prescribes the limits and often the character of his actions] — Fr *détermination par soi-même*, Ger *Selbstbestimmung*

self-display, self-exhibition = the tendency on the part of certain individuals to make unduly conspicuous in social intercourse their own personal, physical, intellectual, or moral excellences [The term **self-exhibition**, used in the older literature, is liable to confusion with **exhibitionism**, an abnormal tendency to expose the genitals, **self-display** is prefd Contr w **shyness**] — Fr *parade, étalage de soi*, Ger *Prahlerei, Prunken*

self-evident = characterizing certain fundamental truths which are held to be indisputable, and to be worthy of acceptance as soon as they are stated, without other evidence or proof **self-evidence**[n] — Fr *évident par soi-même*, Ger *selbstverständlich*

self-expression = such acts of the human organism as serve to reveal and (often) to develop the forms of behavior which are most characteristic of the individual in question, they employ his natural capacities, distinguish him from others, and involve a large portion or the whole of his organized personality rather than a limited segment [Used esp in social psychology, in the study of social intercourse] — Fr *expression de sa personnalité*

selfishness = an exaggerated regard for one's own advantage, accompanied by a disregard for the welfare or happiness of others [Syn **egoism**, a slightly broader term, contr w **unselfishness, altruism**] **selfish**[a] — Fr *égoïsme*, Ger *Selbstsucht*

self-knowledge = a loose term denoting an individual's ability to appraise his own mental qualities and deficiencies [Probably based on the Socratic maxim, γνῶθι σαυτόν] — Fr *connaissance de soi*, Ger *Selbsterkenntnis*

self-love = the emotional element in the attitude of **egotism** — Fr *amour de soi*, Ger *Eigenliebe*

self-observation = 1 a translation of the German term *Selbstbeobachtung*, which usually has either of the two meanings of **introspection**, 2 the study of one's consciousness and behavior by both subjective and objective methods, 3 the objective study of one's own behavior [The term lays less emphasis upon memory and other internal (central) data than the syn introspection, and is less open to misunderstanding Syn **self-study**] — Fr *observation de soi*

self-preservation = any type of behavior which tends to prolong the life of an organism, particu

larly by warding off some acute peril [Used (loosely) in phrases such as **instinct of, tendency to, attitude of self-preservation**] — Fr *conservation personnelle*, Ger *Selbsterhaltung*

self-psychology = that system of psychology which holds the self to be the point of reference, given in introspection, to which every psychological phenomenon must be referred [Founded by Calkins Similar to **personalistic psychology**, but with an introspective rather than a biological emphasis]

self-punishment mechanism = (*psychoan*) a psychic process which gives rise to moral and ethical overseverity of the superego in its conflict with the primitive impulses of the id and results in neurotic symptoms — Fr *mécanisme du punition de soi-même*

self-rating = the attempt by an individual to evaluate his own personality or any class of characteristics, in comparison with the personality or characteristics of other members of a given social group [Cf **rating**] — Fr *appréciations (estimations) personnelles*

semantic aphasia, see **aphasia**

semantics[sing] = the systematic investigation of the history and evolution of the meanings of words [Cf **semeiology** (2)]

semblance = the characteristic of an idea, mental image, response (simple or complex), or emotional expression, such that it appears to indicate a certain object, movement, or emotional disposition, whereas it has actually some other reference [The term covers a wide field, e g conscious self-deception, undetected illusion, mimicry and make-believe, artificial emotion] — Ger *Schein*

semeiology, semeiotics, semiology, semiotics = 1 the scientific investigation of sign language, 2 the systematic investigation of the symptoms or signs of specific diseases **semeiotic**[a].

semen = the spermatozoa and liquid products of the testes, plus the secretions of the excretory ducts and associated glands, which are discharged as a viscid, homogeneous mass in orgasm — Ger *Same*

semicircular canals, semicirculars = three bony canals which emerge and terminate at the posterior end of the vestibule of the internal ear of higher vertebrates, and serve as receptors for the static sense [They lie at right angles to one another in three planes which do not correspond to the conventional reference planes of the body They are termed the **superior** (anterior), **posterior** (vertical), and **horizontal** (lateral) canals Each presents an expanded portion called an **ampulla**, just after it leaves the vestibule Each canal consists of an outer, bony structure, called the **osseous canal** and an inner structure called the **membranous canal** The superior and posterior canals fuse in a common crus before leaving the vestibule Cf **labyrinthine sense, nystagmus, dizziness**] — Fr *canaux semi-circulaires osseux*, Ger *Bogengänge*

semicircular ducts = membranous tubes contained within the semicircular canals [They are three in number the **superior** (anterior), the **posterior** (vertical), and the **horizontal** (lateral) semicircular ducts, corresponding to the bony canals of like designation Each duct presents a dilation at one end, called the **ampulla**] — Fr *canaux semi-circulaires membraneux*

semiconscious, half conscious = a loose term applied either to an extremely low degree of attention or to subconscious or subliminal experiences — Ger *halbbewusst*

semi-interquartile range = one-half the difference between the 75th and the 25th percentiles (or 3rd and 1st quartiles) [Syn **quartile deviation**, or Q Cf **quartile**]

semitone = a half step on a musical scale [The diatonic semitone has the ratio 15 16, the chromatic semitone has the ratio 24 25, and the tempered semitone the ratio $1 : 2^{1/12}$ Cf **interval** See Table VII] — Ger *Halbton*

senescence = 1 the period of old age during which mental decay sets in, 2 the degenerative changes which take place in this period **senescent**[a] — Ger *Greisenalter*

senile dementia = dementia which results from a specific shrinking of the brain in advancing age, with marked memory defect and narrowing of outlook

senilism = presence of senile signs with or without actual old age

senility = mental and physiological impairment incident to old age [Cf **senescence**] **senile**[a] (last syll -il or -ile) — Ger *Greisenhaftigkeit*

senium praecox, see **senilism**

sensa[pl], see **sensum**

sensal = 1 pert to sense or sensation, i e sensory, 2 pert to the meaning of a word as distg fr its sound or visual form [Rarely used]

sensation = 1 (*psychol*) an experience aroused from outside the nervous system, which is not further analyzable by introspection, i e an element of consciousness, 2 (*physiol*) an afferent neural process which commences in a receptor and extends to the cerebrum, 3 (*psychophysiol*) a conscious sensory process which is correlated with a physiological process, 4 (*psychophys*) any one of the total number of discriminable experiences which may exist within a given modality as determined by the formula $(1R - RL)/DL$, in which $1R$ denotes the upper limen, RL the lower limen, and DL the difference limen, 5 (*epistemol*) the ultimate item of awareness or knowledge (James), 6 (*logic*) a systematic and classificatory term, the sum of the observable attributes or dimensions of experience (Titchener, Bentley), 7 (*general*) the process of sensing or sense-perceiving, abstractly considered, distg fr **perception, thought, affection**, etc **sensational**[a], **sensory**[a] (more properly = pert to sense) — Ger *Empfindung*

sensation increments = added degrees of intensive change in a given sensory quantum in connection with a psychophysical procedure (Fechner, Meinong, et al) — Ger *Empfindungszuwüchse*

sensation level/auditory = the number of decibels (db) (expressed in units of energy), above a chosen reference level, usually the threshold of the sound in question [If two sounds S_1 and S_2 have loudness L_1 and L_2 and S_2 is the louder, the sensation level of S_2 is N decibels above that of S_1 when $N = 10 \log_{10} L_2/L_1$ This is the **relative sensation level** If S_1 is chosen at the threshold, N expresses the **absolute sensation level** of S_2] — Fr *niveau de sensation auditive*

sensation unit/auditory = a logarithmic unit of loudness, corresponding to the physical intensity unit, the **decibel** [It has been supposed to be

a just perceptible (or just noticeable) difference of loudness, but is so only under certain limited conditions Abbrev SU]

sensation(al)ism = 1 (*hist*) that form of empirical psychology which asserts that all mental contents are originally given as sensations, that all the so called higher faculties are developments from sensation, and that all ideas are produced by composition of sense-data, 2 the view that sensations are the ultimate elements in the psychological analysis of cognitions [The theory (1) received most complete statement in the work of Condillac (1758) after which a reaction favored emphasis on the power of the mind to do more than merely compound data In the latter form of the doctrine (2) the elements are not *ideas of sensation*, but *psychophysical events* or processes Cf **associationism, rationalism**] **sensationistic**^{a}, **sensation(al)ist**^{np}.

sense = 1 the sphere of sensation as distg fr **ideational** and **affective** experiences, 2 meaning, 3 (*pop*) good judgment **sensory**^{a} (1), **sensuous**^{a} (1), **sense**^{a} (2), **sensible**^{a} (3) — Ger (2) *Sinn*

sense/a = a specific class of experiences, dependent upon a special type of receptor, or upon a specific manner of application of stimuli [Syn **modality, a mode** The classification of the **senses** depends on empirical evidence, and various schemes have been proposed, the two most widely adopted are (*a*) into external and internal, and (*b*) into external, systemic, and motor] **sense**^{v} — Ger *Sinnesgebiet*

sense-datum = 1 a specific sensation, 2 a discriminable detail or group of related details in the organism or in the external world, capable of being experienced through sense, but considered in abstraction from the process of sensing **sense data**^{pl}

sense discrimination, see **sensory discrimination**

sense-distance = the interval which separates two given sensations as judged or perceived by the observer — Fr *intervalle sensible*

sense-feeling = a sensory pattern or complex group of sensations, usually organic or kinesthetic, highly colored with feelings of pleasantness or unpleasantness [E g hunger, nausea, headache, etc] — Ger *sinnliches Gefuhl*

sense (or sensory) illusion = a mistaken perception due primarily to some characteristic of the sensory mechanism or to conditions that are inherent in the objective relations presented [E g the Muller-Lyer illusion]

sense impression = 1 a sensation, 2 a sense datum [This term is used to denote the action of the *sensorium*, by those who wish to avoid the implication of *consciousness*]

sense intuition = (*hist*) the final synthesis of sensory data in the act of perception, which results in the apprehension of external objects [Cf **intuition** (3)]

sense (or sensory) limen, see **sense threshold**

sense/motor, see **motor sense**

sense organ = an organ consisting in the ending of an afferent nerve, or in a specialized cell or cells associated with the ending of such nerve, which is differentially affected by some specific type of stimulus [The term is often considered to include **accessory apparatus**, e g convergence mechanism of eye Syn **receptor,** but **sense organ** is sometimes used more narrowly, to include only mechanisms which arouse activities that are correlated with sensory experience] — Ger *Sinnesorgan*

sense perception = 1 the knowing of facts directly from the stimuli received by the senses, 2 the process by which this knowledge is obtained, 3 the power or function of gaining such knowledge

sense process, sensory process = the psychophysical operation involved in **sensation**

sense quality = 1 the characteristic of a particular sensation, or of a particular sense datum, which persists through all quantitative changes, 2 a specific item of sensory experience

sense/systemic, see **systemic sense**

sense threshold, sensory threshold = (*psychophys*) that value of the comparison stimulus which is judged different from the standard stimulus with a probability arbitrarily chosen (usually 0 5 in psychophysical experimentation) and statistically determined from a set of observations [Syn **sense limen, sensory limen**] — Fr *seuil sensoriel*, Ger *Unterschiedsschwelle*

sensed differences = differences of sensation which are actually noticed or observed [Titchener distinguishes **sensed differences** from **sensation differences** (i e differences in sensation) in that the latter may be in different minds or in the same mind but separated in consciousness (i e in experiences) by a long period of time] — Fr *différences sensibles*

sensibile = any object, or any part or aspect of an object, which may be apprehended directly through sensory receptors **sensibilia**^{pl}

sensibility = 1 the capacity of an organism to receive stimulation, 2 sensory capacity measured in terms of the attributes of quality, intensity, extensity, and duration, esp capacity to experience certain distinct groups of sensations (e g protopathic sensibility, etc), 3 marked susceptibility for affective and emotional experiences, 4 (*pop*) possession of good judgment or common sense [Syn (1) **receptivity** Distg fr **sensitivity,** which usually has a narrower meaning] **sensible**^{a} — Ger (1) *Empfindungsvermogen*, (2) *Empfindlichkeit*, (3) *Empfanglichkeit*, (4) *Vernunftigkeit*

sensibility/common, see **common sensibility**

sensibility/deep, /epicritic, /protopathic, see **deep sensibility**, etc

sensibilometer = a form of touch-key, in which the application of pressure makes the circuit [Distg fr the usual touch-key, in which the pressure breaks the circuit]

sensible, see **sensibility.**

sensible discrimination, see **sensory discrimination**

sensitive^a, see **sensitiveness, sensitivity** — Ger *empfindlich, empfindend*

sensitive^{np} = (*psych res*) a person who is subject to sensory hallucinations, mental impressions, or motor automatisms, which are assumed to be the means for the acquisition of supernormal knowledge [Syn **psychic**^{np}, **seer** Cf **medium** (2)] — Fr *sensitif*

sensitive zones = certain regions of the (human) body which are markedly susceptible to cutaneous stimulation [Applied particularly to the development of cutaneous sensitivity in the child]

sensitiveness = a psychophysical disposition

marked by a low threshold for various stimuli or situations, including those which give sensations, pleasure, or unpleasantness, or which elicit certain emotions [Distg fr **sensitivity** = capacity to respond to sensory stimuli, and fr **irritability** = 1 capacity to respond to sensory or motor stimuli, 2 a tendency to respond with anger reactions when the stimulus is not particularly provocative] **sensitive**[a]. — Fr *sensibilite*, Ger *Empfindlichkeit*

sensitivity = 1 susceptibility of an organism to stimulation, 2 capacity to be affected by stimuli of relatively slight intensity and to receive sensations therefrom or respond thereto, 3 (*phys*) the ratio of the change in a measuring instrument to the change in the phenomena which it measures, 4 (*pop*) marked susceptibility to feel aggrieved [Distg fr **sensibility**, which usually denotes a general capacity, whereas **sensitivity** refers to a specific state **sensitivity** is best used in quantitative and technical work (1, 2, 3), rather than syns (1) **receptivity**, (1, 2) **irritability** (which carries no implication as to sensation) Syn (1) **affectivity** (rather than **sensitiveness**) prefd] **sensitive**[a]. — Fr *sensibilite*, Ger *Empfindlichkeit*

sensitivity/visceral = susceptibility of the internal organs to stimulation [Parts of the alimentary canal are sensitive to pressure and pain, the esophagus and stomach to variations in temperature] — Fr *sensibilité viscerale*

sensitization = 1 the process by which a receptor becomes excitable to a definite stimulus, 2 a condition of increased sensitivity, irritability, or responsiveness [E g visual receptors are sensitized in dark adaptation and the brightness limen is thereby reduced] **sensitize**[v] — Fr *sensibilisation*

sensitization period = the interval of time required for an end-organ to become sensitive to a given stimulus

sensorial reaction, see **sensory reaction**

sensorimotor[a] = pert to neural activity in which both the afferent and efferent segments of the neural arc are involved, or pert to the structure concerned in such activity

sensorimotor activity = responses which follow directly upon sensory stimulation [Contr w **ideomotor activity**, which follows upon thought processes]

sensorimotor arc = the path or paths which function in the conduction of neural impulses from receptor to effector [A more comprehensive term than **reflex arc**, it includes paths at all levels of organization Syn **neural arc**, **nervous arc**]

sensorium = 1 the gray matter of the cerebral cortex, in so far as it is concerned with the reception of nerve impulses from the receptors, or sense organs, 2 the entire sensory mechanism of the organism [Contr w **motorium**]

sensory = 1 pert to the activity of the receptors and afferent nerve mechanism, 2 pert to a sense, 3 pert to sensation, 4 pert to a directly observable or palpable experience [Preferably limited to (1) and (4) Contr (1) w **motor**] — Ger *sinnlich*, *Sinnes-*

sensory acuity = 1 the degree to which an individual may distinguish stimuli of small quality, intensity, or duration, 2 the degree to which an individual can distinguish between stimuli which differ in intensity, extent, position, temporal onset, or quality, as measured by the stimulus or the differential limen, 3 the degree to which details in a sensory pattern may be distinguished or resolved

sensory amusia, aphasia, see **amusia, aphasia**

sensory areas = those regions of the cerebral cortex in which the afferent paths from the sense organs terminate, and which are therefore regarded as the specific centers of the several senses — Fr *aires sensorielles*

sensory circle, see **tactile circle**

sensory discrimination = the ability to distinguish between stimuli which differ either quantitatively or qualitatively, and the degree in which small differences can be distinguished [Syn **sensible (or sense) discrimination**, both of which are ambig]

sensory habit = a learned discrimination between stimuli which takes the form of a differential response to one only, or one type, the motor act itself being often already in the repertory of the subject [Syn **discrimination habit**, contr w **motor habit**]

sensory nerve = any nerve which conducts impulses from a receptor or peripheral terminal to the cord or central nervous system [Syn **afferent nerve** Contr w **motor (efferent) nerve**]

sensory organization = (*Gestalt*) that organization in which the stimulus pattern on the sense surface supplies the forces to start and maintain the nervous excitations, and which therefore depends upon the properties of the stimulus pattern

sensory process = 1 syn for **sensation**, 2 a neural process externally aroused, 3 the result of the action of a receptor, or sensory end-organ

sensory reaction (or **response**) = a response in which the subject's attention during the fore-period is directed to the stimulus rather than to the response [Syn **sensory reaction**, **sensorial reaction (or response)** Distg fr **motor** and **natural response** (or **reaction**) Used esp in reaction time experiments Cf **compound reaction**]

sensory reaction (or response) type, see **reaction type**

sensory stimuli = stimuli which produce responses directly without the mediation of aroused ideas

sensory system = the afferent nervous system with its appended organs of sense

sensual = characterizing exaggerated preference for and response to organic stimuli, esp those of food and sex [Distg fr **sensuous**, which characterizes overindulgence in pleasurable stimuli of any sort, and fr **sensory** and **sensational** = pert to sensation in general] — Fr *sensuel*, Ger *sinnlich*

sensual pleasure = pleasure, or affective experiences of a pleasant tone, due directly to sensory stimuli [Distg fr **ideational (or ideal) pleasure** = due to ideas or thoughts and only indirectly to sensory stimuli] — Fr *plaisir sensoriel*, Ger *sinnliche Lust*

sensum = any sensory datum **sensa**[pl]

sensuous = 1 pert to or markedly displaying the sensory aspects of experience, e g sensuous poetry, 2 liable to be affected emotionally by the sensory aspects of experience [Distg fr **sensual**, which pertains, rather, to certain organic desires, as for food or sex, and fr

voluptuous, which implies a luxurious indulgence in sensuous or sensual pleasures] **sensuousness**^{n}. — Fr *sensible*

sentience = 1 the property of the nervous system (or its earlier prototype) to receive stimuli, 2 the lowest grade of consciousness, 3 syn for **sensibility** (1) **sentient**^{a} — Fr *excitabilité*

sentiendum = any elementary or analytically unresolvable qualitative feature of perceptible objects, considered exclusively as something observable, i e without reference to the sensory process of observing (Dunlap) **sentienda**^{pl}

sentiment = 1 an emotional disposition which has reference to an object, person, or abstract idea, and lacks the characteristic of a true emotion, 2 an acquired disposition to certain types of emotional experience and action, in relation to some one object or to any object of some one kind (Shand), 3 an experience made up chiefly of ideas and systemic sensations [**sentimental**^{a} is used only with **sentimentality**]

sentiment/esthetic = emotional expression resulting from esthetic appreciation

sentimentality = overindulgence in sentiment, esp in emotional display connected with love or pity [Rarely used as a technical term] **sentimental**^{a}, **sentimentalist**^{n,p}, **sentimentalize**^{v}.

septum = (*biol*) a partition or wall — Ger *Scheidewand*

septum lucidum = a thin double-walled partition below the callosum, which separates the anterior parts of the two lateral ventricles [The cleft between the two walls (called **cavum septi pellucidi**) is sometimes designated the 5th ventricle, but has no relation to the ventricles proper]

septum transversum = the ridge in the wall of the ampullae of the semicircular canals, which contains the nerve endings

sequela = any morbid condition which results from an attack of disease [Commonly used in plural, **sequelae**]

sequence = 1 the occurrence or presentation of one event or phenomenon immediately after another in point of time, 2 a temporal series of events or phenomena, 3 (*math*) a succession of quantities or algebraic elements, each term of which is derived from the one just preceding it by the same operation as that by which all the others are derived **sequential**^{a} — Fr (1, 2, 3) *suite*, (1) *ordre*, (2) *série*, Ger (1) *folgen*^{v}, *nachfolgen*^{v}, (2) *zeitliche Reihe*, (3) *Reihe*, *Folge*

serial, see **series**

serial behavior = an integrated sequence of responses, as in maze running, typewriting, or other acts of skill — Fr *comportement en série*

serial discrimeter, see **psychergograph**

serial method = in experimental research, the method of presenting stimuli successively, as distg fr simultaneous presentation, e g as in learning nonsense syllables

serial reaction, see **continuous discrimination response**

series = 1 a group of objects, phenomena, events, terms, etc which are given (or admit of arrangement) in a definite array or succession, 2 (*math*) a succession of terms deducible from a single principle, or a succession of items which embody some common characteristic [(1) applies either to the successive **presentation** of objects, etc regardless of their relations, or to the **arrangement** of data in some given respect series (2) are classed as **continuous** (or **quantitative**), which vary by infinitely fine gradations, and **discontinuous** (or **discrete**), in which the items differ qualitatively or by discrete quantitative amounts] **series**^{pl}, **serial**^{a} — Ger *Reihe*

sessile = characterizing organisms which are fixed in location, i e which lack active or adequate locomotor organs [Applied to plants and certain animals and contr w **motile** = capable of locomotion, applied to most animals]

set = 1 a temporary condition of the organism which facilitates a certain specific type of activity, 2 a group or series [Syn (1) **adjustment, Einstellung, determining tendency, preparation, disposition**] — Fr *ajustement, prédisposition*

set/culture, see **culture set**

set/mental = a condition of readiness for some specific type of mental performance — Ger *Einstellung*

set/neural = a (temporary) state of subexcitation of a reflex path, such a path offers a lowered resistance to nerve impulses which can reach it, and appears to *attract* such impulses [This temporary state is also called **Bahnung** (S Exner) and the corresponding permanent state is called **canalization** A permanently canalized path is a **neurogram** or **engram**] — Fr *prédisposition nerveuse*

set/organic = the disposal of any given bodily organ into a definite and relatively permanent form — Fr *prédisposition organique*

setting = the arrangement of the environment of a given object, or the disposal of the elements accompanying a given experience, in relation to the object or experience in question — Fr *mise en place*

set-up = a configuration of instruments or apparatus as arranged and adjusted for the investigation of a given experimental problem

seventh (*mus*), see **interval**

sex = 1 a fundamental distinction of the organisms within a given species into those which produce ova or egg-cells (female) and those which produce sperm cells (male), 2 (*psychoan*) any form of organ pleasure or gratification, which may or may not enter into the service of reproduction **sex**^{a} = pert to sex or to a sex, **sexual**^{a} = pert to the generative functions — Ger *Geschlecht*

sex character = any one of the structural, physiological, or mental characters which differentiate the two sexes [They include (1) **primary**, which are directly concerned with the reproductive functions, and (2) **secondary**, which differentiate individuals of the two sexes but apparently play no direct role in the functions of reproduction]

sex chromosomes, see **chromosomes X and Y**

sex differences = (*psychol*) any significant deviations in mental traits which characterize members of the two sexes generally [A term used in mental testing, in connection with individual, age, racial differences, etc Cf **group differences**] — Fr *différences entre les sexes*, Ger *Geschlechtsunterschiede*

sex feeling = any distinctive feeling, emotion, or sentiment experienced by members of one sex

toward members or a member of the other, attributable to their difference in sex [Cf **sex sensation**] — Fr *sentiment sexuel*, Ger *Geschlechtsgefuhl*

sex intergrade, see **intersex**

sex (or **sexual**) **sensations** = a species or group of organic or systemic sensations which are initiated through receptors that lie in or about the reproductive organs and in other **erogenous zones** and which constitute the sensory phase of the reproductive act or the associated stimulation of the genitalia [Distg fr **sex feeling**, a complex or integrated experience]

sexual infantilism = 1 prepuberal condition of the gonads, the secondary sex characters, and sex behavior in persons or animals past the age of puberty, 2 (*psychoan*) an arrest at one of the early stages of pregenital development

sexual instinct, psychosexual instinct = (*psychoan*) a broad, dynamic, instinctual tendency, whose aim is a striving for the attainment of organ-pleasure, and which only at puberty enters into the service of the function of reproduction [Contr w **ego instinct**]

sexual intercourse, see **coition**

sexual latency period = (*psychoan*) the period in childhood from about the fifth or sixth year to puberty, in which there is a pause of sexual development, and in which this latent development may at a later time assume a high cultural standard through sublimation [During this period the previous mental experiences and excitations succumb to the infantile amnesia Cf **latency period**]

sexual object = whatever serves to stimulate sexual attraction, whether a person or a thing

sexual reflex = the events which precede orgasm upon stimulation of the genitalia, together with the orgasm itself [Mediated by the nervus erigens and 3rd and 4th sacral segments]

sexual reproduction = that mode of generation or reproduction of new organisms which involves and follows the union of two sex cells [Syn **gamogenesis** Distg fr **fission and sporulation**, which are unisexual]

sexual selection = the selection, by organisms belonging to one sex, of certain individuals of the other sex for mating, on the basis of certain structural or functional characters, resulting in the gradual preponderance of these characters in the population

sexual trauma = the emotional shock, usually of a sexual nature, experienced in early childhood, which in earlier psychoanalytic theory (now abandoned) was regarded as the cause of hysteria

sexuality = the totality of primary and secondary sex characters, regarded as a major phase of the individual's make-up [In psychol generally limited to mental traits, in pathol often used to denote hypertrophy of the sexual traits]

sexuality/latent, see **latency period**

shade = 1 any color darker (i e of a lower brilliance) than median gray, 2 (*pop*) the specific brilliance of any gray [Contr (1) w **tint**] — Fr *teinte foncee, valeur elevee*

shadow/acoustic, see **acoustic shadow**

shadow experiment/Fechner's, see **Fechner's shadow experiment** — Fr *experience des ombres de F*

shadow-strokes = upstrokes, downstrokes, or lateral strokes which are written with considerable pressure [Contr w **hair-strokes**]

sham feeding = experimental abstraction of the gustatory from the gastric effects of eating by feeding animals which have oesophageal fistulas, so that the food swallowed does not enter the stomach

shaman = 1 (*originally*) a person in primitive Siberia who engaged in magic, regarded as able, by trances or other procedures, to communicate with supernatural beings, 2 (*anthrop*) any primitive person who professes magic or who deals with the supernatural [Sometimes syn (2) w **medicine man**]

shame = an emotional attitude which arises in connection with real or fancied defects of body or behavior, lack of proper clothing, etc, and is characterized by shrinking or avoidance, and sometimes by some autonomic expression, such as blushing, digestive disorders, etc [Distg fr **modesty** (2) which lacks the emotional element] — Fr *honte, pudeur*, Ger *Scham*

shamming = an attitude, posture, or activity manifested by a human or subhuman organism, which simulates or resembles the responsive posture or attitude ordinarily due to some quite different stimuli or situations [Used generically for the trait, often without specification, while the syn **feigning** is generally accompanied by a specific characterization, e g feigning death or lameness] — Fr *feinte, faux semblant*

sharp^a = 1 characterizing an intense, painful, acid taste, or a pungent smell, or a well-localized intense pain, 2 characterizing a sudden sound of relatively high pitch, 3 applied to a tone of pitch higher than the true interval sequence (contr w **flat**), 4 characterizing intense cold, 5 mentally acute [Not recommended for technical use, except (3)] **sharpness**^{n} — Fr (1) *piquant*, (2) *aigu*, (3) *diese*, (4) *vif, perçant*, (5) *eveille, intelligent*, Ger (1, 2, 5) *scharf*, (3) *erhoht*

sharp^n = 1 (*mus*) a tone whose pitch is slightly higher than a given standard, 2 a tone which is a semitone higher than some natural tone, 3 the sign (#) used to indicate a half-step rise in pitch [(2) contr w **flat**] **sharp**^{a} — Fr *dièse*, Ger (1) *erhohter Ton*, (3) *Kreuz*

sheath of Schwann, see **neurilemma** — Fr *gaine de S*

shell-shock = a loose term for the transitory or more protracted reactions to actual shell explosions or mere fear or fright [First considered as structural damage (Mott), later recognized as having a large fear and self-protective component]

shift/binaural, see **beat/binaural**

shock = 1 a sudden depression of the nervous system produced by accident, operation, or strong emotion, 2 a condition of lowered excitability in nerve centers following section of their connections with other centers, 3 the direct physical effects of the impact of one mass upon another, 4 (*hist*) the elementary nerve impulse (G H Lewes) — Ger *Nervenanfall*

shock/spinal = the (functional) depression of spinal reflex centers after spinal transection

short-circuit appeal = a method of salesmanship which involves the use of suggestion or the arousal of an instinctive tendency [Distg fr **long-circuit appeal**, which gives reasons or information]

short-circuit theory = a provisional hypothesis proposed by Wertheimer according to which phenomenal movement (the phi-phenomenon) is due to a short-circuit (*Kurzschluss*) between the regions of the brain excited by each stimulus, thereby giving rise to a new, structured unity — Fr *t du court-circuit*, Ger *Kurzschluss-theorie*

short-circuiting = 1 (*neurol*) the passage of a nerve impulse through a shorter path upon repetition, 2 (*psychol*) the gradual simplification of the processes involved in an acquired act of behavior as the latter becomes habitual, it is attributed to the **short-circuiting** (1) of the nerve impulse — Fr *mise en court-circuit*

shrill, see high

shut-in personality = a reclusive and often self-centered personality type, particularly liable to schizophrenic breakdown — Fr *personnalité retirée, introvertie*

shyness = an attitude characterized by discomfort when in the presence of others and by the partial inhibition of the usual social responses [Syn **bashfulness, timidity**] shy^a — Fr *réserve, timidité*

sib = 1 (*anthrop*) a social group, larger than the family, which reckons descent through either the father or the mother, 2 (*biol*) syn for **sibling**

sibling, sib = one of two or more offspring, either of the same or of different sexes, produced by the same parents

sibyl, see **oracle** (1)

side-window experiment = an experimental demonstration of **binocular contrast**, in which the individual stands in profile to a window so that the near eye is exposed to bright illumination while the other eye is shielded by the nose, if a piece of white paper be held near the face, the double picture will be seen in two different shades, that of the shielded eye being brighter and more yellow than the other

sigh = a prolonged, generally audible, inspiration followed by short exhalation sigh^v. — Fr *soupir*, Ger *Seufzer*

sight = the sense whose receptive organ is the eye and whose proper stimulus is radiant energy of wave-lengths approximately 400 to 760 millimicrons [Syn **vision** (more common, but slightly ambiguous) Cf **sense**] see^v, visual^a. — Fr *vision*, Ger *Gesicht, Gesichtssinn, Sehen*

sight/line of, sighting line, see **visual axis** and **direction/line of** — Fr *rayon visuel, ligne de regard*, Ger *Visierlinie*

sigma = 1 (*psychophys*) one thousandth (i e 1/1000) of a second, 2 (*statist*) the **standard deviation** [(1) is used in reaction-time and tachistoscopic experiments, e g 150$^\sigma$, (2) is a measure of dispersion in a distribution, e g $\sigma = 2\ 5$]

sign = an object, impression, symbol, response, etc which is substituted for another object etc, or which suggests the other [E g the written word *cat* is a sign for this animal or for the mental picture of the animal Cf **signal, symbol**] — Ger *Zeichen*

sign language, see **gesture language**

sign manual = 1 an autograph signature, 2 an official or royal signature or monogram affixed to a document written by another person

signal = a sign which is communicated by one individual or creature to another and may become a sign for him [Cf **sign**]

signal experiment = an experiment, often with animals, in which the subject after repeated motivated trials regularly makes the required response, as between several possible responses, to a specific stimulus or signal [The experiment usually includes some test or control of the effectiveness of the signal, such as reversal of spatial relations confronting the animal, intensive change in the signal, or variation of the time between signal and response Cf the special cases, **choice experiment, discrimination experiment, delayed response experiment**]

signature = 1 syn for **local sign**, 2 in music, the symbolic notation at the beginning of the staff indicating the key and the measure

significance, signification = the meaning or value of phenomena or events [**significance** usually calls attention to some important meaning or value, while **signification** is more general Contr w **factuality** In reporting conscious experiences, distinction is made between **description** (Ger *Beschreibung*) = report of facts, and appreciation or **evaluation** (Ger *Kundgabe*) = report of signification] signify^v, significant^a = meaningful

signify = 1 to be an indication of the existence of something, 2 to mean or to have meaning significant^a (2) — Ger *bezeichen*

similarity = 1 a correspondence in some given respect between two data or among several data, 2 (*beh*) the characteristic of stimuli, situations, objects, occurrences, etc, such that they bring about identical responses [Syn **likeness, resemblance** (= observed similarity) Contr w **dissimilarity, unlikeness**] similar^a. — Fr *ressemblance*, Ger *Ähnlichkeit*

similarity/law of = a principle of mental association, according to which one thought or present experience recalls another thought which resembles it in some respect [More properly, **law of resemblance**]

simple = 1 elementary, i e without parts or complication, 2 easily understood or performed [Contr (1) w **complex**, (2) w **subtle** or **difficult**] simplicity^n. — Ger *einfach*

simple eye = an eye which contains only one focusing system [It is characteristic of vertebrates and certain invertebrates Contr w **compound eye**, which contains more than one focusing system]

simplex inheritance = inheritance of a given character through a single gamete, i e from one parent only [Contr w **duplex inheritance** through both parental gametes]

simplicity, see **simple**

simplicity/canon of, see **economy/principle of**

simulation = 1 the act of feigning on the part of an animal, 2 the voluntary production of factitious lesions resembling those produced by disease, for the purpose of escaping military duties or collecting insurance, and as a manifestation of neurosis, e g dermatitis factitia [Syn (2) **malingering**, which is more inclusive] simulate^v, simulative^a, simulated^a — Ger *Verstellung*

simultaneity = the occurrence of two or more phenomena at the same time (Pron sy- or sim-, accent -nee-) simultaneous^a.

simultaneous contrast, see **contrast**

simultaneous light-induction, see **light-induction/simultaneous**

sin = conduct which violates the established moral code [Used only where the moral code is conceived to be the law of a deity or a divine plan of life, the violation being regarded as an offense against God In certain mental disorders, consciousness of sin (or sinfulness) is a recognized symptom] — Fr *péché*, Ger *Sünde*

singing = the vocal expression of music, i e the act of producing, with the larynx, tones in which a musical scale is an essential part **song**^{n} = the product, **sing**^{v}

single stimuli/method of = any psychophysical method in which a report follows the presentation of one stimulus only

singular = 1 applying or pert to one individual or instance only, 2 (*pop*) unusual, strange, remarkable **singularity**^{n} — Ger (1) *einzeln*, (2) *sonderbar*

singularism = the theory that the entire universe may be explained in terms of a single principle [Contr w **pluralism**]

sinister = the left side [Contr. w **dexter, right**] (Accent **sin-**) **sinistral**^{a}. — Fr *gauche*, Ger *links*

sinistrad writing = writing in which the line of progress is from right to left [Individual letters are usually formed by movements in harmony with the general direction of writing Distg fr **dextrad writing**, which progresses from left to right] — Fr *écriture senestre*

sinistral = pert to or located on the left side of the body [Contr w **dextral**] (Accent **sin-**) **sinistrad**^{adv} = towards the left — Ger *links liegend*

sinistrality = the preference on the part of certain individuals for using the left hand (or side) rather than the right in motor activity, and the tendency to use the left for guiding and directing bimanual operations [Syn **left-handedness** (less general) Contr w **dextrality**, and w **ambidextrality**] **sinistral**^{a}, **left-handed**^{a} — Fr *gaucherie*

sinus = a cavity, diverticulum, or sac in an organism — Ger *Hohle*

siren = a sound-producing device consisting of a rotating disk with perforations through which blasts of air, steam, etc , are forced from a nozzle [The pitch of the sound is determined by the number of blasts per second, which is a function of the number of perforations in the disk and the speed of its rotation]

sitophobia = morbid fear of eating or of food

situation = 1 the stimulus-pattern which affects an individual at a given moment or during the receptive period, 2 the environment and the organism in that environment at a given moment, 3 the place or locality in which a given object exists [**situation** (1) is broader than **environment**, including internal as well as external stimuli] — Ger (1) *gesamte Reizlage*, (2) *Situation*, (3) *Umgebung*

situational analysis = an analysis of the forms of behavior characteristically associated with *natural* situations as distg fr laboratory or artificially arranged situations

sixth (*mus*), see **interval** and Table VII — Fr *sixte*

size-weight illusion = a normal misinterpretation of comparative weights, due to the influence of visual perception of size [Objects of greater volume are judged lighter (in weight) than smaller objects of the same weight] — Fr *illusion de soupesement*

skeletal muscle, see **musculature/skeletal**

skeletal reflex = a reflex response whose path terminates in the striate skeletal muscles [Distg fr **autonomic reflex**, which terminates in the smooth muscles or glands, and whose response is concerned with the autonomic functions] — Fr *réflexe squelettique*

skewness = (*statist*) the departure, or deviation of a frequency distribution from the bilaterally symmetrical form [**skewed distribution** = one wherein there is a bunching of measures on one side of the average and a stretching out of measures on the other Symmetrical distribution gives **zero skewness** **coefficient of skewness** = a figure or ratio which indicates the degree of departure from symmetry] **skewed**^{a} — Fr *asymétrie*

skiascope = an instrument for the objective determination of ocular refraction [Syn **retinoscope**] **skiascopic**^{a}, **skiascopy**^{n} (accent -as-)

skill = ease and precision in the performance of acts **skillful**^{a} = using skill, **skilled**^{a} = possessing skill — Fr *habileté*, Ger *Geschicklichkeit*

skin = the external integument of an animal, which serves as a protective investment, a temperature regulator, an excretory structure, and a sensory medium for the body [Syn **cutis** The **skin** consists of two distinct portions (*a*) the outer epithelial layer = **epidermis**, or **cuticle**, (*b*) the deeper connective tissue stratum = **derma, dermis, true skin,** or **cutis vera** The upper part of the derma is the **corium** (sometimes syn with **derma**), the deeper part is the **tela subcutanea** The cutaneous receptors are located in the lower layers of the epidermis and throughout the rest of the derma] **skin**^{a}, **cutaneous**^{a}, **dermal**^{a} — Fr *peau*, Ger *Haut*

skin erotism = (*psychoan*) a condition in which the skin is an erogenous zone, and in which pleasure is produced by scratching or rubbing [Syn **dermal erotism**] — Fr *érotisme de la peau*

skin reflex, see **superficial reflex** — Fr *réflexe de la peau*

skin sensation, see **dermal sensation.**

skioptic response (or **reaction**) = a response to shadows or changes in shading [A primitive type of visual response, noted (e g) in echinoderms]

slate-writing, see **psychography** (1).

sleep = a special state of the organism, due to certain as yet undetermined physiological conditions, which is characterized by relative immotility and failure of effective response to external stimuli, and (generally) by absence of observable signs of consciousness [Contr w **waking state**, distg fr **hypnosis**, in which there are effective responses to the words and gestures of another individual, fr **swooning**, which is characterized by general relaxation of the skeletal musculature, and fr **coma**, which involves a more complete failure of the response mechanism Cf **drowsiness, stupor**] **sleep**^{v}, **asleep**$^{a, adv}$, **sleeping**^{a} — Fr *sommeil, endormi*^{a}, Ger *Schlaf*

sleeplessness, see **insomnia**

sleep-walking, see **somnambulism.**

slip comparison = in experiments involving comparison of members of pairs, presented in succession, a comparison of the second datum of a pair, not with the first, but with some earlier presentation, i e with a member of some preceding pair — Fr *comparaison decalée*

slip of speech (or **of the tongue**) = an irrelevant word or words inserted in a spoken sentence, due not to ignorance or mispronunciation but to some confusion of association [Regarded by psychoanalysts as symptomatic of repressed ideas or complexes, which act as wish-fulfillments, due to strong counter tendencies] — Fr *lapsus*, Ger *Versprechen*

slow motion = a term used in cinematography to describe a motion picture film which was originally exposed at the rate of 128 frames per second but which is projected at a speed of about 16 frames per second, thereby lengthening the duration of a given motion or action to approximately 8 times the normal [Applied loosely to any projection of a motion picture film at a slower rate than that of the original exposure, e g for studying coordination in acts of skill] — Fr *mouvement ralenti*, Ger *Zeitlupe*

smell = 1 a quality of **olfactory sensation**, 2 syn for (the sense of) **olfaction** — Ger *Geruch*

smell compensation = a term applied by Zwaardemaker to obliteration of two odors, each by the other [Henning and many others have failed to verify this phenomenon] — Fr *neutralisation d'odeurs*

smile = a facial expression chiefly characterized by drawing the corners of the mouth upward and backward, by elevation of the cheeks with or without parting of the lips, and by reduction of the palpebral space with wrinkling of the skin under the eyes, expressive of a variety of sensations, feelings, and emotions [Distg fr **laughter**, which involves greater muscular activity and phonation] **smile**[v] — Fr *sourire*, Ger *Lächeln*

smoked drum = a recording device which consists of a cylinder overlaid with glazed paper, the latter being blackened with smoke so as to receive tracings from a stylus, which moves to and fro at right angles to the direction of the drum's rotation [It is generally used in conjunction with some form of **kymograph**] — Fr *cylindre enregistreur (avec feuille noircie)*

smoky, see **empyreumatic.**

smooth curve = (*statist*) a curve so drawn as to eliminate the minor fluctuations shown by the (raw) data [The **moving average** is one method of smoothing] — Fr *courbe polie*, Ger *glatte Kurve*

smooth muscle = the contractile tissues of the body which are innervated by the autonomic nervous system and are responsible for the internal adjustments of the body [So termed because the individual fibers have a characteristic appearance without striation and hence are termed smooth, contr w **striate muscle**, in general activated by the central nervous system] — Ger *glatter Muskel*

smoothness = 1 the characteristic of certain complex tactile stimuli, in that they give a continuous and uniform impression, 2 a character of certain sapid substances in that they fail to give any distinctive gustatory quality, 3 a characteristic of certain tonal combinations which fuse or blend evenly [Contr w **roughness** and w **sharpness** Cf **sharp**[a] (1)] **smooth**[a]. — Fr *sensation de lisse*, Ger *Glatte, Glattheit*

snake figure, see **Purkinje figures**

Snellen letters = (*ophth*) printed letters of a special design, which are arranged on a test-card or test-chart in groups of different sizes, and used for testing the acuteness of vision

snow-blindness = a temporary abnormality of the color sense, in which all objects are tinged with red [Caused by long-continued exposure to very bright light, as in Arctic exploration, on glaciers, in telescopic observation of the sun, watching welding operations, etc Cf **erythropsia**] — Fr *cécité des glaciers*, Ger *Schneeblindheit*

sociability = the characteristic of being agreeable and friendly with other individuals, 2 the inclination to seek the company of others [Syn (2) **sociality** (1)] **sociable**[a] — Ger *Geselligkeit*

social = pert to the specific relationship of individuals to other members of the species, or to habits, characteristics, etc which have been acquired through experience with other individuals [Distg fr **sociable** = characterizing a socially adapted individual] **sociality**[n].

social adaptation = the adjustment or modification of individual behavior necessary to harmonious interaction with other individuals, esp , conformity to custom and taboos [Syn **social accommodation** Cf **social adjustment**] **social adaptability**[n] = ability to make such modifications

social adjustment = the changes in habitual conduct and behavior which an individual must make in order to fit into the community in which he lives [The term generally implies a notable divergence, or a conflict which must be overcome Distg fr **social adaptation,** which does not imply conflict]

social attitudes = those attitudes of an individual which are specifically directed toward other members of the species, or which have been developed by social interaction [Cf **attitude/social**]

social behavior = behavior in which the responses are either directed toward other organisms, usually of the same species, or serve as social stimuli to other individuals — Fr *comportement social*

social censorship, see **censorship** (1) — Fr *censure sociale*

social consciousness = the awareness (or capacity in any individual for experience) which concerns other members of the species as distinct from the general environment [Occasionally used as syn for **social mind, collective consciousness, group consciousness,** or **consciousness of kind**]

social contract = (*hist*) an early theory, advanced to explain the origin of social relations, according to which mankind at first lived in isolated families or as isolated individuals, and upon recognizing the advantages of cooperation, met together and voluntarily agreed to forego certain individual privileges in order to secure the benefits of united action

social control = 1 the influence, whether direct or indirect, exerted by individuals through the medium of organized society upon the behavior and conduct of other individuals, 2 any form or means of stimulation used by one or more individuals to evoke desired responses from other individuals, or the exercise of such stimulation [Language, propaganda, government,

custom, and fad are means or instruments of **social control,** differing only in degree of organization]

social decrement = 1 the amount of loss in the average quantity of work done in a group as compared with that accomplished by the component individuals when working alone, 2 the decrease in output of an individual working in a group, as compared with his performance when alone [Contr w **social increment,** which is regarded as the more usual phenomenon Distg fr **social subvalent,** which refers to *quality* of performance]

social degeneracy = a term loosely used to denote (*a*) the supposed degeneration of a society conceived as a super-individual person, (*b*) the condition of a social group which contains a large number of individual degenerates, (*c*) the condition of a group whose members are characteristically degenerates when measured by the standard of the speaker, (*d*) a social condition in which the circumstances and habits of individuals have become so ill-adapted to healthy living that the members of the group can no longer function together and tend to regress to more primitive institutions and customs

social disapproval = an unfavorable overt or indirect judgment passed by a significant portion of a given social group upon certain members, based upon their conduct, general behavior, or physical makeup — Fr *désapprobation sociale*

social distance = 1 the degree of prejudice or antipathy which the members of one group exhibit toward the members of another group, usually expressed in terms of the relations to which the members of one group will admit members of the other group, 2 the degree of difference in the development of culture between two social groups

social dynamics = 1 that branch of sociology which investigates the progressive changes in the constitution of (human) society in the course of time, 2 the historical approach to the study of human attitudes and habits, esp those which constitute institutions [Often, though not necessarily, limited to the study of radical and revolutionary epochs and of catastrophic social movements]

social elimination = selective action, by social means, which results in the destruction or removal from society of individuals who are constitutionally inferior, unadjusted to the prevailing type of social organization, or subject to social disapproval [Contr w **social selection,** the preferment of certain individuals]

social evolution = the series of progressive changes in the organization of society which take place in the course of time [Usually syn w **social progress,** and contr w **social retrogression**]

social facilitation = the enhancement of a response by contributory social stimuli, such as the sight and sound of other persons engaged in the same activity [Distg fr. **rivalry** = an emotional reinforcement of movement, accompanied by a desire to win in competition with others] — Fr *frayage social*

social factor = any component of the forces that act upon the individual and influence his responses, which is attributable to the social relation (i e to stimuli coming from other members of the species as distinct from the general environment) and which tends to induce social responses or to modify his behavior, attitudes, or habits [Cf **social force**]

social feeling = (*indiv psychol*) the recognition of the needs of others as contr w the original and fundamental will to power

social force = 1 any type of stimulus (or organized group of stimuli) acting upon an individual, which is generated directly by other members of the species as distg fr general environment, and which usually tends to induce social responses in the individual, 2 any power, energy, or stimulating value which is supposedly inherent in the group, as distg fr the powers, etc of individuals, 3 any habit formed by social training [E g **custom, imitation, suggestion, authority,** etc Cf **social stimulus**]

social group = a collection of organisms (usually human beings) which live for the most part in proximity to one another, or respond to one another or to a common stimulus [**social groups** are classified as **primary** or **face-to-face** (e g the family) and **secondary, derivative,** or **co-acting** (e g a church, a "radio public")]

social habit = any acquired mode of behavior which involves cooperation with other members of the species, or which has developed through social interaction [Cf **custom**]

social heredity = an inaccurate syn for **social transmission**

social increment = 1 the amount of gain in the average quantity of work done by individuals in a group over that accomplished by individuals working alone, 2 the increase in output of an individual working in a group, as compared with his solitary performance [Contr w **social decrement,** which measures the loss Distg fr **social supervalent,** which refers to **quality** of performance]

social instinct = any inherited type of complex behavior which involves cooperation of the individual with other members of the species [Cf **instinct, gregariousness**]

social intelligence = 1 the effective dealing by an individual with novel situations involving the mutual relations of members of a group, 2 such intelligence as is measured by tests which require an understanding of the mutual relation of individuals [Cf **intelligence**]

social maladjustment = the condition of any individual, in which his characteristic modes of behavior or subjective experiences are such that he fails notably to meet the ordinary needs and relations of life by interaction with the individuals about him — Fr *mésadaptation sociale*

social mind = 1 a shorthand term to denote the average or characteristic intellectual data of a given community 2 (*hist*) the conception of an organic system of ideas, which persists apart from the minds of individuals and constitutes the general psychic aspect of a nation or an epoch [Syn (1) **collective mind,** cf **crowd mind, public opinion**] — Fr *esprit social*

social organism = the **social organization** regarded as a type of organization similar or analogous to the biological organism [Cf **biological analogy, group fallacy**]

social organization = 1 the general system of social relations, esp as regards specialization of functions and cooperative behavior, 2 society in general, 3 a relatively permanent group of persons whose purpose is mutual interstimulation, generally of a pleasant nature, e g a fraternity

social progress = any change in social habits, culture, and institutions, or in social organization, regarded as evidence of improvement, esp of moral betterment [Distg fr **social evolution**, which denotes change, but not necessarily improvement]

social psychology = 1 that branch of psychology which investigates the behavior of the individual in so far as his behavior stimulates other individuals, or is itself a reaction to their behavior, and which describes the consciousness of the individual in so far as it is consciousness of social objects and social reactions, 2 the study of the behavior characteristic of individuals in multi-individual situations, 3 the study of personality as it develops in relation to social environment, 4 the study of the distinctive mental phenomena which come into existence among men in consequence of their association, 5 the study of the behavior and consciousness of groups [Cf **social mind, social force, collective psychology**] — Ger *Sozialpsychologie*, *Volkerpsychologie*

social retrogression = the phase of social change which is characterized by deterioration, i e by less effective organization [Contr w **social progress**]

social science = a generic term which covers all sciences dealing with human relations and including sociology, economics, political science ethnology, history, and other related disciplines

social selection = selective action by social means, which results in the preferment of certain individuals and gives them greater opportunities in the struggle for existence [Contr w **social elimination** and w **social suppression**]

social self = 1 the consciousness of one's self or personality as determined by the attitudes of others toward him, 2 that part of the individual's behavior or personality which has social significance [(1) frequently referred to as the **looking-glass self**] — Fr *le soi social*

social situation = the totality or pattern of stimuli presented to a given individual at a given time, in so far as these stimuli are concerned with other members of the species

social statics = that branch of sociology which investigates the social forces as they effect the organization of society at any given time, i e the study of social forces in equilibrium [Cf **social dynamics**]

social status = the position or special function of a given individual in a social group, as defined by the attitudes toward him of the other individuals composing the group

social stimulus = any activity or characteristic of an organism which gives rise to a conscious experience or a response on the part of another organism [E g movement, sound, color, odor emanation, or mere presence Usually denotes interstimulation among members of a high organic species, esp man]

social subvalent [**supervalent**] = loss [gain] in quality of work done by an individual working in a group, as compared with the performance of the same individual working alone [Frequently used to denote the *average* loss [gain] when solitary performances are compared with those in the group situation Distg fr **social decrement** [**increment**] which refers to decrease [increase] in *amount* of work done]

social suppression = a drastic form of **social elimination**, in which the individual is ignored, punished, exiled, or put to death

social theory = any systematic attempt to account for **social organization**

social transmission = the passing on of language, customs, traditions, inventions, and other data or habits from generation to generation through their general use or prevalence in the community, as distg fr transmission by biological inheritance [Often called **social inheritance**, which is misleading, as it suggests a biological process, which is not present]

social will = the average or dominating desire and decision of the members of a social group, regarded figuratively as an individual phenomenon [Syn **general will** Cf **social mind**] — Fr *volonte sociale*, Ger *Gemeinwille*, *gesellschaftlicher Wille*

sociality = 1 a characteristic of certain species or individuals, such that they cooperate individual with individual, in various activities, 2 a supposed instinct or tendency which forms the basis of social organization [Syn (1) **sociability**, (2) **gregariousness**.] **social**[a] — Ger *Gesellschaftstrieb*

socialization = 1 (*psychol*) the process by which individuals acquire socially desirable habits and become able to live as members of a social group, 2 (*econ*) the control of industries by the community [Cf (1) **assimilation** (4)] **socialized**[a], **socialize**[v]

society = 1 a group of individuals of any species who live in mutual intercourse and cooperate in various activities, 2 a group of persons, usually co-acting in behavior, who are associated for a common purpose or because of a common interest, 3 (*pop* , *fig*) the mass of individuals, as distg fr a single individual, 4 (*soc*) the practices, traditions, sentiments, and more formal organization of the aims and interests that define the relations of human beings to one another **social**[a] (applied to individuals), **societal**[a] (applied to the group) — Ger *Gesellschaft*

sociology = the branch of science which investigates the phenomena of social relations and the history and principles or laws of social organization [The objects or data investigated in sociology are principally *groups* or individuals in their relation to group behavior, while in psychology the object of study is the *individual* organism]

socionomic force = a force which, though not itself social in character, modifies the action of **social forces** and is therefore a factor in determining social organization and progress

socionomics[sing] = the branch which investigates the relation of social groups to the factors in their environment **socionomic**[a].

socius = the person, regarded as a social unit, having characteristics in common with his fellows [Contr w **personality**, which represents personal distinctiveness]

Socratic method = an inductive dialectic procedure, which consists in leading a pupil or disciple to accept or admit the desired conclusion by means of a progressive series of leading questions which he answers in turn [Devised or popularized by the Greek philosopher Socrates]

sodomy = sexual intercourse between males by the anus [Pop used as syn for **bestiality**]

soft palate, see **palate**.

softness = 1 characteristic of complex tactile experiences which occur when the movin

member can readily depress the object touched, 2 characterizing an auditory sensation of slight intensity [Syn (2) **faintness** (prefd)] **soft**^a — Fr (1) *mollesse*, (2) *douceur*, Ger (1) *Weichheit*

sole reflex, see **plantar reflex**

solidity = the characteristic of having three dimensions [In visual space, perception of **solidity** depends upon retinal disparity of double images and upon shadows, perspective, etc, in tactual space it depends upon the cutaneous and muscular experiences received as a member moves over the object investigated Contr w **surface** and **linearity**] **solid**^a — Ger *Körperlichkeit*

solipsism = a world-view of the extreme idealistic type, according to which the universe consists solely of the individual in question and his own experiences [Cf **idealism**] **solipsistic**^a (Accent **sol-**)

solution = 1 the obtaining of a satisfactory answer or explanation of a problem which at the outset presented difficulties, or the answer so obtained, 2 (*math*) the determination of the specific value or values of the variables of an equation which fulfill the conditions imposed by the equation, 3 (*chem*) the absorption of a gaseous liquid, or solid substance in a liquid, thus forming a homogeneous mixture **solve**^v — Ger *Losung*

soma = all the cells in an organism except the germ cells **somatic**^a.

somaplasm, somatoplasm = the protoplasm which constitutes the body, exclusive of the germ cells [Contr w **germ-plasm**] **somatoplasmic**^a

somatic = 1 pert to the body substance in general, as distg fr the germ cells, 2 pert to the framework of the body, as distg fr the viscera, or internal organs — Ger *korperlich*

somatic disorders = disorders of the body exclusive of the nervous system

somatic functions = those functions of sensation and muscular contraction in which the somatic nerves are concerned [Contr w **visceral functions** = the functions controlled by the autonomic nervous system]

somatic hermaphroditism = the anatomical union, in the genitals, of both male and female characteristics, either well developed or stunted [Syn **bisexuality.** Cf **hermaphroditism**]

somatic induction = the production of germinal variations through the influence of the soma, or body, on the germ plasm.

somatic nerves = the nerves which supply the exteroceptors and proprioceptors and the striate muscles [Cf **exteroceptors, proprioceptors.** Contr w **visceral nerves**]

somatic postures = postures or attitudes of the body and its members, as contr w visceral expressions

somatology = the investigation of the general bodily constitution and physiology of man [Syn **physical anthropology**]

somatoplasm, see **somaplasm**

somatopsychosis = a type of mental disorder in which the leading symptom is some delusion regarding the constitution or condition of the patient's body. (Accent **so-** and **-ko-**)

somesthesia, somaesthesia, som(a)esthesis, som(a)esthetic sense = 1 the tactile sense, external and internal, 2 an indefinite sensation due to various faint stimuli of touch, temperature, etc, acting on the surface of the body [Syn **somatic sensitivity** Often used in contr w the special senses of sight, hearing, etc] **som(a)esthetic**^a

somite = a serial segment of the body, characteristic of such organisms as vertebrates, arthropods, and annelid worms

Sommer tridimensional movement-analyzer = an instrument by means of which the free movements of the forearm and two fingers are analyzed into vertical, lateral, and sagittal components, these being traced (by recording levers) in a single plane on a smoked drum [Devised by R Sommer in 1898, and used chiefly to analyze involuntary responses to various sensory stimuli, e g odors]

somnambulism = a condition (usually regarded as a hysterical symptom), in which the individual may walk about and execute various complex movements for which there is an amnesia upon returning to the normal condition [Syn **sleep-walking**] **somnambulist**^np, **somnambulistic**^a — Ger *Schlafwandeln, Nachtwandeln*

somnambulism/artificial = (*hist*) a term formerly applied to certain phases of hypnosis, because hypnotic subjects sometimes manifest behavior resembling that of a sleep-walker

somniferous^a, see **soporific**

somnolence = abnormal drowsiness [Used pop to denote sleepiness] **somnolent**^a. — Ger *Schlafsucht*

somnology, see **hypnology**

sonance = a fusion of successive pitches [Distg fr **timbre,** which involves simultaneous fusion]

song, see **singing**

sonometer = an instrument for auditory research, consisting ordinarily of two or three strings, variable in length and tension, stretched over a resonance box [Cf **monochord**]

sophism = a false argument (usually propounded intentionally), so devised that the nature of the fallacy is difficult to detect or demonstrate [Cf **sophistry, psittacism, paralogism**] **sophistic**^a.

sophistry = the intentional use of fallacious or ambiguous arguments [Cf **sophism**] (Accent **soff-.**) **sophist**^np — Ger *Sophisterei*

soporific^n = a sleep-inducing agent, esp a drug [Syn **hypnotic**^n (ambig)] **soporific**^a, **somniferous**^a.

sorcery^n = 1 (*hist*) divination from the casting of lots, 2 (*pop*) the use of supernatural knowledge or power gained in any manner, esp through the connivance of evil spirits [Syn **magic, necromancy, witchcraft, enchantment**] **sorcerer**^np, **sorceress**^np (fem) — Fr *sorcellerie*; Ger *Zauberei*

sorrow = syn for **grief** and for **regret** — Fr *chagrin*, Ger *Sorge, Trübsal*

soul = 1 (*hist*) the mind or specific substance manifested in mental phenomena, 2 (*pop*) a human being, 3 (*pop*) a disembodied spirit, 4 the characteristic qualities of an individual's nature, esp the emotional qualities of sympathy [Cf **soul theory**] — Fr (1) *âme*, (2) *être*, (1, 3) *esprit*, Ger *Seele*

soul theory = the theory which holds that mental phenomena are the manifestations of a specific substance, usually assumed to be distinct from material substance — Fr *t de l'âme*, Ger *Seelentheorie*

soundⁿ = 1 (*phys*) a mechanical disturbance in the air or other medium propagated away from the source, 2 (*psychol*) a mode of sensation dependent upon (1) and also upon the ear with its associated neural mechanism [Syn (1) **sound-waves**, they are classed as **periodic** and **aperiodic**, syn (2) **sound sensations**, they are generally classed as **tones** and **noises**, some recognize a third class, **vocal sounds**] **sound**ᵃ — Fr *son*, Ger *Schall*

sound-absorption = the dissipation through friction of all or a portion of the sound energy transmitted to a body or surface [Contr w **sound-reflection** The degree to which a body or surface absorbs (and hence does not reflect or transmit) the sound-energy conveyed to it, is called its sound-absorbing power]

sound cage = an apparatus for determining the precision of localization of the source of an auditory stimulus and for measuring the degree and direction of errors [In its earliest form the device consisted of a spherical network of wires in three systems, each system passing through the poles of one of the chief axes of space, the observer being seated within, with the center of his head at the center of the hollow sphere The stimulus was supplied by the click of a telephone receiver placed at some point of intersection of two wires The observer points to (or calls off in degrees) the supposed source of the sound, and the error is measured in angular degrees on the axes of reference In later models the wires are replaced by a single semicircular tube or rod which can be rotated freely in two axial directions, the receiver sliding freely along the rod, by rotating the rod and shifting the receiver the sound can be given at any directional position except immediately beneath the observer's body]

sound energy flux = the average over one period, in ergs per second, of the rate of flow of acoustic energy through a given area

sound hammer = an electrical make-stimulator commonly used, in connection with other apparatus, for measuring auditory response time, it consists of a pivoted lever which when released or activated strikes a metal block, thereby simultaneously closing the reaction circuit and producing the auditory stimulus — Fr *marteau sonore*, Ger *Schallhammer*

sound image, see **phantom sound**

sound intensity = 1 (*phys*) the sound energy flux per unit area perpendicular to the direction of propagation, 2 (*psychol*) the quantitative attribute of sound [The unit of (1) is erg per sec per sq cm Cf (2) **loudness**] — Fr *intensité sonore*, Ger *Schallstärke*

sound key, see **voice-key** — Ger *Schallschlüssel*

sound-pattern theory, see **hearing/theories of**

sound pendulum/Wundt, see **Wundt sound pendulum**

sound perimetry = the measurement and mapping of a subject's field of auditory space with reference to the precision of localization in direction and distance [Cf **localization of sound**]

soundproof room = a room so constructed as to be (relatively) impervious to sound

sound-ranging = a method of locating the position of a sound source by determining the time of arrival of the sound-wave at various adjacent points — Fr *localisation sonore par ordination*

sound/velocity of = the rate of progression of sound vibrations in a given medium [The velocity in air at 20°C is 344 meters per second] — Fr *vitesse du son*, Ger *Schallgeschwindigkeit*

sound-wave = a periodic alteration in the density of molecules or particles of air or other medium acted upon by some oscillatory pressure [Usually restricted to density changes of such frequency as to cause auditory sensations when conducted to the ear In free air sound-waves are propagated in concentric spheres away from the source Audible sound-waves fall within the frequencies of approximately 20 to 20,000 cycles per second] — Fr *onde sonore*, Ger *Schallwelle*

sound-wave/complex = a sound-wave which is not of sine form, and hence may be regarded as the sum of two or more simple periodicities [Syn **compound sound-wave** According to **Fourier's law** a complex sound-wave can be analyzed into a series of pendular vibrations]

sounding board, sound board = a sheet of wood or other material in a musical instrument or sound apparatus which is set into forced resonance and thus reinforces the tones produced by the instrument [Cf **resonator**] — Ger *Schallbrett*

sour = a quality of gustatory sensation of which the taste of tartaric acid is a typical example [Syn **acid** (preferably applied to stimulus rather than sensation) Cf **gustatory qualities, taste**] — Fr *acide*, *sur*, Ger *sauer*

space = 1 the system of simultaneous positions, directions, and magnitudes, considered apart from material content (physics) and from sensory qualities and intensities (psychology), 2 the interval between objects or points at a given instant of time [Syn (1) **extension** (*physics*), **extensity** (*psychol*), (2) **gap, distance**] **space**ᵃ, **spatial (spacial)**ᵃ — Fr *espace*, Ger *Raum*

space error = the error or deviation which occurs in psychophysical experimentation as the result of presenting two stimuli (either simultaneously or successively) in different **spatial relations** to the observer [According to Fechner's convention, the **space-error** (designated by q) is *positive* when it operates to make the left of two equal stimuli appear greater than the right one, and *negative* when the left one appears less than the right Cf **time-error** (p)] — Fr *erreur spatiale*, Ger *Raumfehler*

space orientation = 1 position in space, 2 adjustment of the position of the body (or some part of it) to the position of objects or forces in space, as in a tropism, 3 awareness of one's position in space — Fr *orientation spatiale*, Ger *Raumstellung*

space perception = the experience of space or extensity, either as a character or attribute of phenomena, or as a distinct element of experience, whose relations may be investigated apart from the specific sensory data perceived [A generic term applied to investigation by any or all sense modalities, or to any explanatory theory, specific terms (visual, tactual or cutaneous, kinesthetic, auditory space perception) are applied to investigations limited to one type of modality The factors involved are position, direction, size, form, distance] — Fr *perception d'espace*, Ger *Raumwahrnehmung*

space relations, spatial relations = the direction and extensity differences of objects from one another or from the observer

spaced repetition = a procedure employed in

learning, in which the material to be memorized is repeated at intervals with a period of rest after each period of learning [Syn **distributed repetition** (or **practice**) Contr w **unspaced repetition**, in which the material is repeated again and again without respite till it is completely memorized] — Fr *répartition des présentations dans le temps*

span/law of = "every mind tends to keep its total simultaneous cognitive output constant in quantity, however varying in quality" (Spearman)

span of apprehension, see **attention/range** (or **span**) **of**

span of attention, see **attention/range** (or **span**) **of**

span of consciousness = the number of separate objects simultaneously perceived [Distg fr **span** (or **range**) **of attention** in that it includes all objects perceived, whatever their degree of clearness]

spark chronoscope = a heavy pendulum which swings along a calibrated scale and demarcates the beginning of the duration to be measured by tripping an electrical contact when it passes the zero point of the scale, the end of the duration is recorded by a jump spark from a point on the pendulum to a paper-covered metal plate paralleling the scale, the paper being perforated or dotted by the spark — Fr *chr à étincelle*

spark method = a method of recording response times and other temporal data in which a time line is registered by a vibrating fork on a smoked drum, the beginning and end of the period in question being registered by means of an electric spark which perforates the paper at the corresponding points on the time line [Spark recording has been applied to the **pendulum chronograph** Cf **spark chronoscope**] — Fr *m de l'étincelle*

spasm = a convulsive involuntary contraction of a muscle or set of muscles — Ger *Krampf*

spasmophemia = a disturbance in the rhythm of speech, an intermittent blocking, or the convulsive repetition of a sound [A form of **dysphemia** Syn **stuttering, stammering** Cf **aphemia**]

spatial, see **space**

spatial threshold (or **limen**) = the threshold which marks the point in a series of stimuli, where two objects or impressions are sensed as just spatially separate, or, more precisely, where the spatial separation is just as often sensed as it is not — Ger *Raumschwelle*

spatialization, spacialization = the perceptual spatial reference of objects to positions beyond the body [A rare term contr w **localization**, which is then limited to the reference of stimuli to positions on the surface of the observer's body or, as in sound localization, to positions externally related in space to the observer's body Syn **projection** (2)]

spayed = the condition in the female of having the reproductive organs removed or rendered incapable of functioning

speaking = the act of producing vocal sounds in conventional symbolic combinations, in which a specific musical scale is not an essential part [Distg fr **singing**] **speech**[n] = the product, **speak**[v]

Spearman footrule = a formula devised by C S Spearman for computing correlation by the equation $R = 1 - [6\,\Sigma G/(N^2 - 1)]$

special abilities = a vague expression suggesting a set of non-overlapping abilities, each of which may vary more or less independently of any general ability or average level of ability, e g ability to construct wooden models of ships, ability to draw, etc [Cf **specific ability**] — Fr *capacités spéciales*

special ability tests = tests designed to measure some special ability or restricted group of capacities, as distg fr general ability tests [E g the Seashore musical ability tests and numerous vocational and educational tests, such as the Thurstone tests of clerical ability, the Stenquist tests of mechanical ability, tests of spelling ability, arithmetical ability, etc]

special aptitude test, see **aptitude test**

special creation theory = the theory that all species of organisms were separately created by divine agency, and that they are immutable

special senses = the four cranial senses, vision, audition, gustation, and olfaction

species = 1 (*logic*) a subdivision of a larger group (a genus) marked off from other subdivisions by one or more qualitative differences, 2 the subdivision of organic life immediately subordinate to **genus** and superordinate to **variety** [Since the advent of the evolution doctrine the concept and the demarcation of species (2) have been less rigid Cf **classification/zoological**] — Fr *espèce*, Ger (2) *Art*

specific = 1 characterizing a datum of any sort as distinctive, 2 pert to a species

specific ability = 1 an ability regarded in its totality and as distinct from all other abilities, 2 a factor which determines the degree of excellence in some particular test performance but does not affect any other really different performance [According to Spearman's **two-factor theory, specific abilities** (symbolized by s) are uncorrelated with one another, and always operate in conjunction with a general factor (g), which affects many performances] — Fr *capacité spécifique*

specific energy of nerves = (the theory that) each sensory nerve or neuron, however stimulated, gives rise to only one type of sensory process and a single quality of sensation (Ch Bell, 1811, Joh Muller, 1826) [A later modification of this theory holds that the specificity resides in the central brain areas rather than in the afferent nerves] — Ger *spezifische Sinnesenergien*

specific factor, see **s factor**

specific gravity = the ratio of the mass of a body or substance to an equal volume of water at 4° C — Ger *spezifisches Gewicht*

specification = 1 the act of making a full, detailed, and definite statement or classification, 2 the citation of definite examples to illustrate a classification or argument **specify**[v], **specified**[a] (not **specific**[a], which has another meaning)

specificity = the characteristic of a given quality, datum, etc such that it is manifested in connection with a certain phenomenon or type of phenomenon and not with others **specific**[a]

specificity doctrine of traits = the view that human behavior consists of *specific* acts and habits, contr w the view that it can be categorized into *general* traits such as honesty, dishonesty, cleanliness, suggestibility, etc [Cf w **factor, factor theory**]

specify, see **specification**

specious present, see **present/psychological**

spectators = those present at a spectacle or visually presented performance [Syn **onlookers** Distg fr **audience,** present at an auditory presentation Technically, **spectators** is used to denote those present but not participating in a given social or individual activity]

specter, spectre = (*pop*) a fantasm which assumes the form of a human corpse, a disembodied spirit, or of some fear-inspiring being

spectral chroma scale, spectral scale = a scale or series of colors formed by arranging the spectrum as a series of equal units according to just-noticeable chromatic differences, while differences in brilliance are eliminated [About 130 just noticeably different colors are found Since the spectral colors differ in saturation as well as in hue, the scale cannot properly be regarded as one of pure hue] — Fr *echelle spectrale chromatique*

spectral energy = the radiant energy in a given small interval of the spectrum (esp) as compared with another similar interval taken as a standard

spectral line = any one of the narrow lines, each representing light of a definite wave-length, which are observed in the solar and other spectra, certain groups of lines being characteristic of specific chemical elements [These lines are characteristic of substances in the gaseous state, and appear bright when due to emission from these, or dark when due to absorption by them Cf **Fraunhofer's lines, spectrum,** and see Table XIII]

spectre, see **specter.**

spectrocolorimeter = an instrument designed to measure colors in order to designate them numerically, the sample is matched by partial reflection with a mixture of spectral light of a single wave-length and a standard white, the color of the sample is then stated in terms of the dominant wave-length and the percentage of desaturation with white as found in the matching mixture

spectrometer = (*phys*) an instrument essentially similar to a **spectroscope,** but designed especially for the accurate measurement of the wave-lengths of lines or of regions in the spectrum [It is frequently adapted for use in visual work to obtain a beam or beams of pure spectral light of known wave-length Cf **spectroscope**]

spectrophotometer = an instrument, combining the properties of a **spectrometer** and a **photometer,** which permits the measurement of relative intensities of light at substantially single wave-lengths, selected at will from those comprising the given sample **spectrophotometric**[a]

spectroscope = an instrument for making a spectrum visible and locating therein the position of spectral lines and of light of the various wave-lengths, the spectrum is produced usually by a prism, sometimes by a diffraction grating, and a linear scale is projected so as to be seen superimposed upon it [Used chiefly for the qualitative detection of chemical substances]

spectrum = 1 (*opt*) a band of radiant energy in which, after passing through a prism or being otherwise dispersed, energy of each wave-length is segregated and all components lie spread out in regular order, 2 (*vis*) the series of colors evoked by stimulation of the retina with radiant energy of continuously differing single wave-lengths from approximately 400 to 760 millimicrons value [The spectral series shows no purples, and fails to include the psychologically primary red, since these colors are evoked only by mixed wave-lengths Cf **spectroscope** and Table XIII] **spectral**[a]

spectrum/acoustic = the range of sound frequencies audible to the human ear, approx from 20 to 20,000 cycles per second

speculation = the act of propounding theories and making generalizations which are only slightly suggested by the available facts [Often applied derogatively to what is asserted to be purely *a priori* thinking If the insecure basis of the speculation is recognized, it becomes a **hypothesis** or preliminary to a hypothesis] **speculative**[a]

speech = (a system of) communication through conventional vocal symbols [Distg fr **gesture, graphic language, writing,** etc Cf **language**] **speak**[v] or **talk**[v], **speech**[a], **oral**[a], or **vocal**[a] — Ger *Sprache*

speech-reading, see **lip-reading**

speech/subvocal (or **inarticulate**) = initiated contractions of the vocal musculature which do not result in audible sounds

speed = 1 time-rate of motion, change, or progress, 2 the inverse measure of the time required to perform a given act [In learning, speed is one of the measures of progress Cf (1) **velocity,** (2) **accuracy**] — Fr (1, 2) *vitesse,* (2) *rapidité*, Ger *Schnelligkeit*, *Geschwindigkeit*

speed counter, speedometer, see **tachometer**

speed score, see **rate score**

speeding up = the exerting of pressure on workers, either through wage incentives or by other means, in order to increase the quantity of output or to reduce labor costs **speeding-up**[a] — Fr *pressé, activité*

spell = (*magic*) a stanza, verse, phrase, or series of nonsense syllables supposed to be capable, when spoken in certain ways or under certain conditions, of controlling the actions of men, deities, or forces of nature [Applied also to the result so produced] — Fr *charme*

sperm = 1 the semen or seminal fluid, 2 one of the mature male sex-cells or spermatozoa

sperm-cell = a male germ-cell [Cf **spermatozoon**]

spermatogenesis = the development of a spermatozoon or male sex-cell from a primitive sex-cell [Cf **gametogenesis** = the development of mature sex-cells, both spermatozoa and ova Contr w **oogenesis** = the development of an ovum from a primitive sex-cell]

spermatogonium = the primordial germ cell which gives rise to the male germ cell or spermatozoon **spermatogonia**[pl]

spermatozoon = a mature sperm-cell or male germ-cell, which has undergone the reduction division and is in condition to fertilize an ovum or female germ-cell **spermatozoa**[pl]

sphenoid sinuses = a paired cavity in the body of the sphenoid bone, each sinus communicating with the nasal cavity by a narrow channel

spherical aberration, spherical error = (*opt*) failure of the rays of light from a given point to come to an identical focus, owing to the fact that the rays traversing the outer zones of the refracting (or reflecting) surfaces are bent farther and meet earlier than those traversing

the inner zones [So called because most curved optical surfaces are spherical, and the error is inherent in this form] — Fr *aberration de sphericité*

spherical lens = a lens whose surfaces are either spherical, or spherical and plane, and which consequently refracts equally in all meridians [Cf **cylindrical lens**] — Fr *lentille sphérique*, Ger *sphärische Linse, Kugellinse*

sphincter = a ring-shaped muscle which, on contracting, partly or wholly closes a natural orifice [E g iris muscle of the eye] — Ger *Schliessmuskel*

sphygmograph = an instrument for recording the form, rate, and force of pulse movements, it consists typically of a button, applied to the wrist over the radial artery, the pulse movement is communicated to the button, which actuates a light lever system terminating in a stylus, which traces upon a moving strip of smoked paper a magnified record of the pulse [Cf **tonograph**] **sphymogram** = the record obtained

sphygmomanometer, sphygmometer = an instrument for measuring the pressure in the arterial system by the effect of an applied external pressure, its essential features are an air-tight cuff to be fastened around the upper arm, a pump for increasing air pressure within the cuff, and a device (either a mercury column or a spring scale) for measuring pressure when the pulse ceases [The usual method employed is to first increase the pressure until the artery is completely closed, then with the pressure slowly declining to note the point on the sphygmomanometer scale when the first pulse wave is observable distal to the cuff]

spicy = a quality of olfactory sensation of which nutmeg is a typical example [A class of Henning's Cf **odor, aromatic**] — Fr *épicé*, Ger *würzig*

spinal = 1 pert to the backbone or spine, 2 pert to the spinal cord, i e that part of the nervous system enclosed within the backbone or spine — Ger *Rückgrats-, Rückenmark-*

spinal accessory nerve, see **accessory nerve/spinal**

spinal animal = an animal in which the entire cephalic nervous system has been isolated from functional influence upon the spinal cord [Generally a more specific term is used, e g spinal dog, spinal frog, etc]

spinal cord = a cord-like structure consisting mainly of neurons and tracts of neurons situate within the spine or backbone [Often abbrev to **cord** Syn **myelon**] — Fr *moelle épinière*, Ger *Rückenmark*

spinal ganglia = groups of cells which form an enlargement on the dorsal root of each spinal nerve [These cells give rise to the afferent spinal-root fibers]

spinal induction, see **induction/immediate spinal, rebound**

spinal nerve = any one of the peripheral nerves (sensory and motor) which issue from the cord below the medulla oblongata [There are 31 pairs Distg fr **cranial nerves**, which pass within the cranium and connect with the brain Cf **peripheral nerve**] — Fr *nerf spinal, n rachidien*

spinal reflex = a reflex response whose paths lie entirely caudad to the medulla oblongata [E g **patellar reflex** Distg fr **cranial reflex**, whose paths lie wholly within the cranium, and **cerebrospinal reflex**, which involves both the brain and cord]

spinal tonus = muscular tonus which is mediated by the spinal nerves and spinal cord only [Exhibited by a **spinal animal** (e g spinal dog or turtle) after the cord has been cut]

spindle = 1 (*neuromuscular*) a type of proprioceptive fusiform receptor, widely distributed among the muscles of the body, 2 a long, slender cytoplasmic body, produced during mitotic cell division, and situate between the asters [Cf (1) **muscle spindle**] — Fr *fuseau*, Ger *Spindel*

spindle/color, see **color solid**

spindle/olfactory, see **olfactory cell**

spine = 1 a column of ring-like bones which extends from the head to the tail in the dorsal region of vertebrates, 2 a hard pointed projection, usually on the outer covering of the body of a plant or animal, or on the internal skeleton, e g the spine of the ilium [Syn (1) **vertebral column, backbone**] **spinal**[a] (1), **spiny**[a] (2) — Fr *colonne vertébrale, épine dorsale*, Ger (1) *Rückgrat*

spiral lamina = a delicate osseous shelf, wound spirally about the modiolus of the cochlea in the internal ear, which forms the inner support of the basilar membrane [It contains numerous foramina or openings for the passage of fibers of the cochlear nerve]

spiral ligament = a broad ligament attached externally to the outer wall of the cochlear canal in the internal ear and internally to the basilar membrane, which it maintains in tension

spireme = (*biol*) a coiled thread of chromatin, which commonly appears in the nucleus before mitotic cell division

spirit = 1 the total mental organization of man, regarded as distinct from the atomic structure and material organization of the body, 2 (*hist*) a distinctive type of substance of which this organization (1) is composed, 3 (*pop*) the disembodied personality of a dead human being, or a supernatural incorporeal being, 4 vigor and energy of behavior [Rarely used technically in contemporary psychology] **spiritual**[a] (1, 2), **spiritistic**[a] (3), **spirited**[a] (4) — Fr *esprit*, Ger *Geist*

spirit photography = (*psych res*) the production of photographs of persons, upon which appear superposed images, assumed to be of spirits and to be produced by supernormal means

spiritism = belief in communication with discarnate personalities or spirits [Commonly (but improperly) designated **spiritualism**] **spiritistic**[a]

spiritualism = 1 (*philos*) the doctrine that the nature of ultimate reality is typified by the subjective purposive world of mind or by mind, spirit, soul, 2 (*pop*) a religious cult whose chief tenet is the belief in communication with the spirits of the dead [(1) contr w **materialism** (2) is properly termed **spiritism**]

spirituality = a quality of personality which leads an individual to preoccupy himself with moral and religious issues, especially in deed, rather than with affairs of the world or even merely intellectual pursuits

spirograph = an instrument used to register respiratory movements

spirometer = 1 an instrument used to measure the air-capacity of the lungs, after the lungs are

filled, the contents are expelled through a tube into an inverted chamber submerged in a water bath, the chamber rises in the water as the air enters, the limiting value being reached when the lungs are completely emptied, the cubic contents are indicated on a scale, a spring scale is sometimes substituted for the air chamber, 2 an air or oxygen measuring chamber used in connection with metabolism apparatus

spite = an emotional attitude which is aroused by the idea of some real or imagined injury inflicted upon the individual by another (or others) and which expresses itself in some trivial injury or annoyance directed toward the latter **spiteful**[a]. — Fr *dépit, rancune*, Ger *Trotz, Groll, Übelwollen*

splanchnic = pert to the viscera [Syn **visceral.**]

splanchnopleure = the inner layer of the mesoblast, together with the associated entoderm in the embryo

spleen = a ductless gland, situate at the left side of the cardiac end of the stomach **splenic**[a] (accent splen-) — Fr *rate*, Ger *Milz*

splenic, see **spleen**

split-field method = the procedure adopted in examining the subject-matter of a field of search, whereby the subject-matter is bifurcated and dealt with as **differents** (Bott)

split-off consciousness (or experience) = a partly organized set of experiences in an individual, which are independent of his organized consciousness [Used by James, to designate the subordinate phases of dual and multiple personality Cf **co-consciousness, sejunction, dissociation**] — Fr *conscience dissociée*

spontaneity = activity which is initiated by an organism or object without immediate external stimulation (Accent -ee-) **spontaneous**[a] = self-initiated

spontaneous deflections = galvanic skin reflexes which occur without known stimulation or cause

spontaneous generation = the formation of organisms from inanimate substance apart from the mediation of other organisms [Syn **abiogenesis** Contr w **biogenesis**] — Ger *Urzeugung*

spontaneous movements = those movements of an organism which arise from internal (i e organic) stimuli or conditions [Applied esp to the autonomic movements of growth and variation in plants and to movements arising from physiological states in animals Contr w **externally aroused movements**]

spontaneous variation = a variation, or heritable alteration in type of the organism, which is due to factors within the germ cell itself and not to crossing or to environmental factors

spore = a cell which is capable of giving rise to a new individual without fertilization [Usually applied to specialized reproductive cells of plants or to small reproductive cells produced by the divisions of some protozoa A **spore** differs from a **seed** in that the latter contains a multicellular embryo Cf **sporulation**] — Ger *Spore*

sport = 1 an organism either animal or plant, which is markedly different from its parents and from the general type of the species, 2 a contest engaged in for pleasure [Syn (1) **freak** (*pop*) [Cf (1) **mutation**] — Ger (1) *Abart*, (2) *Sport*

sporulation = the process of spore formation [Cf **spore**]

spot-pattern test = a type of test in which the task is to reproduce, after brief exposure, a pattern or design consisting of spots or dots — Fr *t du groupe de points*

spurious = deceptively similar to a given object or datum, but not genuinely belonging to the same class or category — Fr *illégitime*, Ger *unecht, falsch*

spurious correlation = correlation obtained between two sets of measures, which is due in whole or part to factors other than those to which it is ascribed — Fr *corrélation illégitime*

spurt = 1 a quickening or intensification (or both) of a response which has been in progress for some time, 2 renewed or accentuated effort [Cf **end spurt**] — Fr *élan*

square contingency, see **contingency method**

squint, see **strabismus**

stability = 1 (*phys*) absence of motion in a physical mass or organic body which is regarded as a whole in relation to its surroundings, 2 (*biol*) the characteristic of certain species or of specific characters in a given species, such that they do not vary from generation to generation, 3 (*psychol*) a type of temperament or personality characterized by an absence of unusual variations in emotional reactions or traits **stable**[a] — Ger (1) *Stabilität*, (2) *Dauerhaftigkeit*, (3) *Beständigkeit*

stability/occupational = a measure of the proportion of employees in a given group who have held the same post for one, two, three, or more years [The inverse of **labor mobility** Cf **turnover/labor**]

stage = any one of the natural divisions of a progressive series of events, evolutionary changes, etc [Distg fr **class, category,** etc, which apply to static groups] — Fr *stade*, Ger *Stufe*

staircase illusion = a visual illusion of the reversible type, in which a line drawing of a staircase is interpreted either as a stairway seen from above or as cellar stairs seen from beneath (or the under side of an overhanging cornice), the perception usually alternating between the two interpretations — Fr *illusion de la figure en escalier*, Ger *Treppentäuschung*

staircase phenomenon = the response of muscle to single induction shocks of equal strength, by progressively greater contractions up to a maximum (H P Bowditch, 1871) — Fr *phénomène de l'escalier*, Ger *Treppe*

stammering, see **stuttering, spasmophemia** — Ger *Stammeln, Stottern*

stance/reflex = reflex maintenance of pose or posture on the feet in which the relative positions of head, trunk, and limbs are held in a fixed position by a closely integrated reflex mechanism [Cf **postural reflex**] — Fr *réflexes de posture*

standard = 1 that which constitutes a model or guide with reference to procedures, levels to be attained, etc , 2 a fixed and durable unit of any sort used for comparison and quantitative evaluation of data of the same sort [Cf **scale** (1)] **standard**[a] = pert or conforming to a given standard — Fr *étalon*, Ger *Massstab*

standard deviation, standard error = the square root of the mean (i e arithmetic average) of the squares of all the deviations of the measures

comprising a series from their mean [Abbrev to *S D* or σ (sigma)] — Fr *ecart étalon, erreur type, erreur quadratique*

standard error of estimate = the standard deviation of the differences between a series of true values and the estimates of them, i e the standard deviation of the errors of estimate — Fr *erreur type d'estimation*

standard score = the deviation of a score from the average score of the group, expressed in units of the standard deviation of the distribution [If X represents the score of individual A in a given test, $\bar{X}$ the average, and σ_x the standard deviation, then A's **standard score** is $(X-\bar{X})/\sigma_x$] — Fr *note étalonnée*

standard stimulus = in psychophysical research, that one of a pair or group of stimuli which is treated as the basis of comparison with the others [Syn **normal stimulus** (ambig)]

standard tests = materials used in testing, (1) in which the component items have been selected and checked empirically, (2) in which the method of administration and scoring are prescribed with exactitude, and (3) for which norms of performance are supplied to indicate the dependence of the score upon sex, age, school grade, or similar factors [A well-standardized test should also (4) be accompanied by data concerning its reliability and its validity Sometimes contr w **informal tests**] — Fr *tests (épreuves) étalonnés*

standardization of tests = the establishment of a fixed or standard procedure in the giving and scoring of tests, as well as the establishment of adequate age, grade, race, sex, or other norms — Fr *étalonnage des tests*

standardize^v = 1 to bring a group of data into relation with a given standard, 2 to devise a standard for treatment of certain data [Cf **standard, calibration**] — Fr *étalonner*, Ger *normieren*

Stanford Achievement Test = a battery of tests, devised by T L Kelley, G M Ruch, and L M Terman, for measuring the achievement of children in the basic school subjects [The Primary Examination, for Grades 2 and 3, includes reading, arithmetic, and spelling The Advanced Examination, for Grades 4 to 9, includes arithmetic computation, arithmetic reasoning, reading, spelling, language usage, literature, history and civics, geography, and physiology and hygiene]

Stanford-Binet scale = a revision of the Binet-Simon scale of mental tests worked out by Terman and his associates for use in measuring the general level of intellectual development attained by an individual [It covers a wider range than the original Binet-Simon scale and contains many additional tests Distg fr **Stanford achievement tests** and **Terman group test** Syn **Stanford revision, Stanford-Binet tests**] — Fr *échelle de S -B*

stapes = one of the **auditory ossicles**, which is articulated with the **incus** and is attached to the oval window of the vestibule [Syn **stirrup, stirrup-bone**] (2 syll) — Ger *Steigbügel*

starfish = popular name for Asteroides, a class belonging to the phylum of Echinodermata, which is characterized by a central disk and usually five arms, the whole body being enclosed in a tough skin containing calcareous plates — Fr *astérie*, Ger *Seestern*

starting (or startle) reflex = a reflex observed in the newborn infant (and later), stimulated by loud sounds, withdrawal of support, etc , and manifested in jerking movements, changes in respiration, etc [Mediated by brain stem and spinal cord **starting** here means a sudden jerking movement and is related to the phrase "being startled"] — Fr *réflexe de sursaut*

startle^v = (to cause) a violent or sudden motor response, largely reflex, and resembling a momentary fear, as by an unexpected noise or flash of light [Syn **start**^{v} (ambig)] **startling**^{a} (active), **startled**^{a} (passive)

state = 1 a condition which shows no progressive change for the time and in the respect considered, e g a state of health, a state of anxiety, 2 (*hist*) any momentary experience or mental process, e g state of consciousness — Fr *état*, Ger *Beschaffenheit, Zustand*

state of consciousness = the totality of experience at any given moment, with emphasis on the actual contents and their interrelation [Syn **conscious state, mental state**] — Fr *état de conscience*

static reaction/local = 1 **static reflex** which is confined to one limb or part of body

static reflex = a postural response of the body as a whole, orientated in reference to gravity or other forces [The two types are **stance reflexes** and **righting reflexes** Contr w **statokinetic reflexes**]

static sense = the sense whose receptors are usually the semicircular canals (or the statocysts in invertebrates) and whose stimuli are changes in position of the head [The resulting data are called **static sensations**, which term is sometimes extended to include data from the muscle sense, touch, etc , which furnish indications of the position in space of the individual's body or its members Cf **equilibrium/perception of**] — Ger *statischer Sinn*

statistic = any item of a statistical series, including any derived item such as a value calculated from an observed sample with a view to characterizing the population, e g as the **mean, standard deviation, or coefficient of correlation**

statistical errors = inaccuracies either of measurement, of sampling, or of treatment which tend to vitiate statistical results [They are mainly of 2 sorts, **chance** (or **variable**) **errors**, and **systematic** (or **constant**) **errors** Both kinds may occur either in the measurement of the data (**errors of observation**), in the sample selected (**sampling errors**), in the methods employed (**errors in technique**), or in arithmetic accuracy (**computational errors**)]

statistical series = a set of values, quantitative or qualitative, which vary more or less among themselves, but which have some common characteristic or origin [E g ages (variable feature) of pupils in a given fifth school grade (common characteristic)]

statistics = 1 the plural of statistic, 2 the branch of general mathematics which evaluates or arranges groups of data on the basis of the number (or relative number) of cases falling into each different category, 3 classified facts or data [(2) is sing , (1 and 3) are pl] **statistical**^{a}

statocyst = a receptor organ, present in some invertebrates, which consists of a membranous sac filled with liquid, lined with cilia and containing one or more particles called **statoliths**

[The particles being heavier, lie at the base of the sac and are displaced as the head is moved, impinging upon the cilia and giving rise to labyrinthine stimulation Syn **otocyst**]

statokinetic reflexes = postural responses and adjustments of the body during movement, which serve to maintain the normal position of the body against disturbing forces such as velocity, gravity, etc [Contr w **static reflex**]

statoliths = solid particles which are present in the invertebrate **statocysts** [Changes of position on the part of the organism cause them to impinge on the cilia of the statocysts, and give rise to stimulation important in equilibrium Syn **otoliths**]

statue of Condillac = an illustration used by Condillac to portray the development of mental life from sensation, he assumed a statue in likeness of a man but with no sensation at first, one sense after another was assumed to be opened to stimuli, beginning with smell, and the resulting growth of consciousness was traced [The idea of the statue is found in Cicero and others, it was common to many writers in France who supported sensationism or the doctrine that mind is the aggregate of sense-experiences]

steadiness apparatus = a device used to measure the amount of involuntary movement which is made when the finger or arm is held as nearly motionless as possible, it commonly consists in a metal plate containing holes of graduated size into which the subject attempts to insert a metal stylus without contact, touching the side of a hole closes an electric circuit and registers the contact [Certain modified forms are called **ataxiagraph, tremograph, digitalgraph** Cf **ataxiameter**] — Fr *appareil pour mesurer la stabilité motrice*

stem, see **brain stem.**

stentor = a trumpet shaped ciliate protozoan, alternately free-swimming and attached to some solid body by its foot or stem

step interval, see **class interval**

stepwise phenomenon = a structure which exhibits a directional tendency among its members, e g an ascending or descending series of pitches or brilliance, response to the differential aspects of a stimulus-complex [According to the Gestalt psychology, step-wise phenomena are special cases of configurational patterns and responses] — Fr *phénomène de l'echelon*

steradian = the unit of solid angle, equal to that subtended by a surface on a sphere equivalent to the square of the radius [A point in space is surrounded by 4 π **steradians**]

stereo-agnosis, see **astereognosis**

stereognosis = perception of the solidity of external objects **stereognostic**[a]

stereogram = a pair of pictures (usually though not necessarily photographic), or a single picture, so arranged that on being viewed binocularly, the effect is that of a solid object seen in relief [The two pictures are nearly but not exactly alike, so that when seen through a **stereoscope** each offers the view of the solid object as seen by the corresponding eye in a free field In the single picture effect, the two pictures may be superimposed in different colors, such as red and green, each eye is covered with a glass of one of these colors, the two pictures shown by the two colors are slightly different as in the other case and combine stereoscopically Cf **stereoscope**]

stereoreceptor = any receptor of an organism by means of which responses to solid substances are initiated [Cf **thigmotropism, stereotropism**]

stereoscope = an instrument for combining two flat pictures, viewed by right and left eyes, into an impression of a solid object in relief, it usually consists of a pair of prisms, one before each eye, such that each prism displaces the picture behind it in the nasal direction and the two images combine into one [A projecting piece hides the left picture from the right eye, and vice versa, the picture holder is usually mounted on a slide for altering the distance of the pictures from the eyes In other forms mirrors are used to displace the visual angle in such a way as to combine the two separate images into one apparent object or scene Cf **stereogram**] **stereoscopic**[a], **stereoscopy**[n]

stereoscopic motion pictures = motion pictures which give the impression of third dimension or depth, they are taken with two cameras and projected so that the right eye sees the pictures taken with the right camera and the left eye those taken with the left camera [Used in motion study and in showing a beginner how an expert performs an industrial operation] — Fr *cinematographie stereoscopique*

stereoscopic vision = 1 the binocular perception of solidity and relief, 2 perception of solidity and distance (third dimension) in flat pictures by means of a **stereoscope**

stereotropism, stereotaxis = a simple orienting response to contact with solid objects usually positive, resulting in a tendency to crawl into corners or holes [Cf **tropism.**] (Accent **-ot-, -tax-**) **stereotropic**[a], **-tactic**[a].

stereotyped (responses) = characterizing certain responses which are always performed in substantially the same manner **stereotype**[n] = a stereotyped segment of behavior [Contr w **varied response**] **stereotype**[v] (rarely used)

stereotypy = a pathological phenomenon consisting in the endless repetition of fragmentary or apparently senseless words, apparently useless movements, or of certain postures

sterility = inability to reproduce [Applied to both sexes Syn **infecundity**] **sterile**[a] — Ger *Unfruchtbarkeit*

sterilization = the process of rendering an organism incapable of reproduction [A generic term applicable to both sexes Cf **castration, sterility**] **sterilize**[v], **sterilized**[a]

Stern variator, see **tone variator**

sternal = pert to or located on the sternum or breastbone

sternocleidomastoid, sternomastoid = pert to the region at either side of the neck

sthenic = (*rare*) characterizing an individual possessed of vigor and strength [Contr w **asthenic** = weak, feeble]

sthenic feelings = feelings of heightened energy, activity, or excessive excitement such as anger or pronounced joy [Contr w **asthenic feelings**]

stigma = 1 any natural peculiarity of the body of a given individual which is considered a sign of degeneracy, 2 (usually in pl) marks which resemble the wounds of the crucifixion, or other marking, said to have been supernaturally impressed on the bodies of certain saints **stigmata**[pl], **stigmatization**[n] — Fr *stigmate*, Ger (1) *Stigma*, (2) *Wundmal*

Stilling test = a device for testing color blindness, it consists of a set of plates, each bearing many round colored spots, of various sizes, shades, and hues, scattered about, the spots of one color are so grouped as to form some numeral, which is obvious to the normal eye, but is not observed by color-blind individuals

stimulant = a drug or other chemical which, when introduced into the body, tends to produce heightened neural activity, or heightened activity of some other physiological function — Ger *Reizmittel*

stimulate = 1 to apply a **stimulus** to a receptor, 2 to start a nerve impulse, 3 to arouse a high degree of organic activity, e g by a stimulant or by suggestion [(1) is properly distg fr **excite**, although currently employed to include both the act of stimulating and the consequent exciting Cf **stimulation**] — Ger (1, 2) *reizen*, (3) *aufregen, antreiben*

stimulation = 1 any observable change (typical or atypical, and including inhibition) in the metabolism or other function of a living tissue, which is produced by applying some external agency, 2 the act of applying such an external agency (i e a stimulus) [Distg fr **excitation**] **stimulate**[v] — Ger *Reizung*

stimulation/bipolar = a method of electrical stimulation in which a current is passed through the tissue between two closely approximated electrodes

stimulation time = the interval between the application of a stimulus and the arousal of the afferent nerve impulse, i e the time taken to overcome the inertia of a receptor by a given stimulus

stimulation/unipolar = a method of electrical stimulation which involves the passage of current through tissue between a large and a small electrode placed some distance apart [The greater current density at the small area of contact results in stimulation at this area only]

stimulator = any apparatus or instrument employed to generate or apply a stimulus

stimulogeneous fibrillation = the observed fact that nerve axons grow (galvanotropically) *away* from other active neurons, i e away from a cathode pole (S T Bok)

stimulus = 1 an energy external to a receptor, which excites the receptor, 2 loosely, an external or internal object or event, or an aspect of such an object, or a change in an aspect of the object, which arouses or alters an experience, or which alters activity in the living organism, 3 a presented stimulus (1) which releases a prepared response [(2) is general usage, (1) applies to the psychophysical laboratory and is often symbolized by *R* (= Ger *Reiz*), a stimulus is termed **adequate** when it evokes response through the normal action of a receptor, it is termed **inadequate** if it arouses the typical modal experience by its direct action on the *nerve* or if it acts abnormally upon a receptor, and also, in reflexology, if it is **conditioned** to a response which it does not natively evoke, it is **supraliminal** if it is well above the **threshold**, a condition in which it is usually distinctly perceived, it is **liminal** when it is in the region of the **threshold**, where perception may or may not occur, it is **subliminal** when it is below the **threshold**, where it may have an indirect effect upon the response although no direct effect, the transition value of the stimulus from no stimulation to stimulation is the **stimulus threshold** (limen) designated by *RL*, and the corresponding transition value limiting the upper end of a modal series is a **terminal stimulus**, *TR*] — Ger *Reiz*

stimulus attitude = an attitude in which the observer gives attention to the stimulus as object [Cf **object attitude**]

stimulus error = a criticized procedure in psychology, in which reference to the *source of stimulation* is substituted for description of *actual experience*

stimulus-response view = that conception of psychological phenomena which holds them all to be describable in terms of stimuli and responses, both terms being taken inclusively [Not essentially an objective or behavioristic treatment, experiential phenomena being also describable in these terms Not to be confused with **reflexology**, a simplified special form of the stimulus-response view It does not exclude the consideration of neural or other intraorganic processes]

stirp = the sum-total of the genes or determiners present in a given fertilized ovum [Syn **stock**] — Fr *lignée*

stirpiculture = (*hist*) the culture or artificial improvement of the breed, or **stirp** [Syn **eugenics**]

stirrup-bone, see **stapes**

stock, see **stirp**

stomach = a sac-like enlargement of the alimentary tract, following the esophagus, in which the preliminary process of digestion takes place — Ger *Magen*

strabismometer, strabometer = an instrument for measuring the deviation of the eyes in **strabismus**

strabismus = the failure of one of the two eyes to take its proper position of binocular fixation with reference to the other, due to defect or lack of control of the extrinsic ocular muscles [Distg fr **heterophoria** or **muscular imbalance**, in which the eye does not so deviate unless covered Syn **heterotropia, squint**] **strabismal, strabismic**[a] (prefd) — Ger *Schielen*

strain = 1 (*phys*) the degree of deformation (bending, elongation, etc) produced in a body by a given stress, 2 extreme muscular tension resulting from voluntary effort, 3 injury due to overuse, 4 a quality of certain kinesthetic sensations, which are stimulated by muscular tension, 5 (*biol*) syn for breed or stock [Syn (4) **sensation of tension**] — Fr *tension*, Ger (2) *Spannung*, (4) *Spannungsempfindung*

Stratton's experiment = an experiment on visual inversion performed by G M Stratton, which consisted in wearing over the eyes for several days a set of lenses which turned the entire visual field through 180°, and noting the gradual growth of coordination between this reversed field and the tactuomuscular space relations

stream of consciousness, stream of thought = the conscious experience of an individual, likened to a stream in order to emphasize its continuity, in opposition to the conception of it as a series of discrete states [A term introduced by James] — Fr *courant de la conscience, cours de la pensée*

strength = degree of capacity for exertion of muscular force [Distg fr **endurance** = the temporal duration of exerted muscular force] **strong**[a] — Fr *force*, Ger *Stärke*

strength-duration curve = 1 (*psychol*) the record of the progressive decrease in muscular work over a long period of time or until complete exhaustion of the muscle is reached, 2 a graph relating intensity of a constant current (ordinates) to the duration of flow (abscissae) necessary to excite a tissue — Fr *courbe de force-durée*

strephosymbolia = the perceiving of objects reversed as though in a mirror

stress = 1 (*phys*) the force per unit area tending to produce deformation in a body, 2 (*vocal*) the relatively greater force of breath in the utterance of certain syllables as compared with others, 3 (*physiol*) application of tension to a muscle up to or beyond the point of strain, 4 (*pathol*) a condition of extreme mental tension [Syn (2) **ictus**]

stretch reflex, see **myotatic reflex**

striae acusticae, striae medullares (or **acusticae**) = a band of transverse nerve fibers passing across the floor of the 4th ventricle, which connect with the cochlear division of the auditory nerve [They mark the transverse limit between the pontine and medullary parts of the 4th ventricle]

striate body, see **corpus striatum**

striate (or **striped**) **muscle** = muscle whose fibers are divided histologically into striations by transverse bands [The class includes the skeletal muscles generally, attached at one end to a fixed part of the body and at the other to a movable member, also the heart, contr w **smooth** or **non-striate muscles**, which are in general activated by the autonomic nervous system] — Ger *gestreifter Muskel*

string galvanometer, see **galvanometer** — Fr *galvanomètre à corde*, Ger *Saitengalvanometer*

striped muscle, see **striate muscle**

strive = to exert intense muscular or psychomotor effort toward a goal — Fr *s'efforcer*, Ger *streben*

strobophotograph = a device for the photographic recording of sound waves, it resembles the tonoscope, with the added feature of a moving film for recording changes in frequency [Cf **tonoscope**]

stroboscope = a device for presenting a rapid series of exposures of a related sequence of visual stimuli, two illusions produced are of importance (*a*) if the scenes presented are related and differ but little from each other, an illusion of continuous motion is produced, as is the case in the cinema and with animated cartoons, (*b*) if the stimulus itself is moving continuously and periodically, it may be made to appear to slow down, stand still or reverse its direction of motion, as is often the case in cinematographic pictures of revolving wheels or stroboscopic disks [Cf **stroboscopic disk** Syn **zoetrope, vitascope, thaumatrope, dadeleum, praxinoscope**] **stroboscopic**[a]

stroboscopic disk = a device, usually consisting of a cardboard disk upon which is a series of regularly spaced dots or radial lines, when this disk is rotated about its center and viewed by intermittent light (usually a 60 cycle A C lamp), the series of dots or lines may be made to appear to slow down, stop, or reverse its direction of rotation by changing the speed of the disk or the frequency of the exposures, if either of these latter functions is known the other may be calculated

stroboscopic illusion = the apparent motion of an object or event, presented visually or tactually by means of a series of discrete impressions, each one of which indicates an advance in the progressive motion of the object or event [In vision a series of momentary exposures of successive positions is presented at the optimal rate of 16 per sec, alternating with an occlusion of light during which period the positive after-image continues the previously exposed figure or scene Motion pictures embody this illusion Tactual stroboscopic illusions are possible through successive and discrete stimulation of neighboring points under favorable conditions on the skin]

stroke (or **shock**) = (*path*) an apoplectic attack, due generally to rupture of a blood vessel in the internal capsule of the brain [Syn **hemiplegia**] — Fr *ictus*, *attaque*, Ger *Schlag*

strong, see **strength** — Fr *fort*[a], Ger *stark*

structural psychology = a method of systematic treatment of psychology which investigates and describes the composition and the integration of the various mental states and conscious experiences [Syn **content psychology, existential psychology, psychostatics**]

structure = 1 (*biol*) the composition, spatial interrelations, and character of material parts in an organism, 2 (*general*) the arrangement of materials or of parts in any complex aggregate, e g in a sentence, a house, consciousness, etc [Contr (1) w **function** = activity of an organ] **structural**[a] — Ger *Struktur*, *Organisation Bau*

structure = 3 (*Gestalt*) a characteristic of an organized whole or unit with special reference to the positional interdependence of its parts [Usually applied to phenomenal data or their physiological correlates, but may refer also to physical organization, since there are, according to Kohler, physical Gestalten or structures Contr w **constellation** = a group of units having no functional relations Cf **configuration, Gestalt**]

structure-function = a relation, property, or response activity which results from a totality regarded as a unit rather than from its parts as such or their interconnections, i e a configurational pattern or response [Cf **configuration, step-wise phenomenon**]

struggle for existence = a phrase formulated by Darwin to designate biological competition, which emphasizes the fact that the securing of nutriment and mates, and the avoidance of climatic dangers and of enemies, involve a competitive contest between members of the same or allied species [Cf **natural selection, survival of the fittest**] — Fr *concurrence vitale, lutte pour la vie*, Ger *Kampf ums Dasein*

struggle reflex, struggling = a type of response consisting of violent, usually uncoordinated movements [Exhibited by the newborn child when his limbs or head are confined so that the usual random movements are prevented Mediated by brain stem and spinal cord] — Fr *réflexe de lutte*

strychnin = a powerful alkaloid found in the fruit of *Strychnos nux-vomica* and in St Ignatius Bean, which possesses an extremely bitter taste and acts promptly on the spinal cord, producing convulsions [By its action on the anterior-horn cells of the cord, it destroys reciprocal innervation of antagonistic muscle groups

Sensory stimulation causes convulsive seizures of both extensor and flexor muscles Lat *Strychninum*]

studyⁿ = 1 a loose term signifying relatively protracted attention to a topic or subject, for the purpose of acquiring information about it, or of solving problems arising in it, or of memorizing it, 2 (esp in pl) particular branches of learning or objects of attentive consideration, 3 a report of results of **investigation** **study**ᵛ, **studious**ᵃ = inclined to study, pursuing study —Fr *étude*, Ger *Arbeit, Studium*

stupor = a state of non-responsiveness and partial unconsciousness, differing from sleep and also from coma, which usually involves almost complete intellectual insensibility **stuporous**ᵃ — Ger *Betäubung*

stuttering = a disturbance in the rhythm of speech, either an intermittent blocking, or the convulsive repetition of a sound [A form of **dysphemia** Syn **spasmophemia, stammering** **stuttering** and **stammering** are sometimes distg in that the former is convulsive repetition, whereas the latter is blocking] — Fr *bégaiement*, Ger *Stottern*

style = a distinctive type or mode of artistic presentation, dress, literary composition, etc [A loose term, which includes types of architecture, music, painting, etc] — Fr *mode, style*, Ger *Stil, Manier*

style of life = (*indiv psychol*) the individual's technique for achieving superiority [Differences in childhood experience are responsible for the individual differences in **styles of life** which are the central interest of individual psychology]

stylus = 1 a pointed or pen-shaped instrument used for recording on smoked drums, etc, 2 a pencil-like device, with or without a metal tip, for maze tracing, tapping, or coordination test

SU = abbrev for **sensation unit** — Ger *SE*

subclavian = below the clavicle or collar-bone (Accent **-clay-**)

subconscious = 1 pert to processes of which the individual is not aware, but which appear to be otherwise akin to the processes of (conscious) experience, 2 dimly or marginally conscious [Distg fr **subliminal** = lacking in intensity, **subordinate (consciousness)** = belonging to lower centers and not connected with one's personal experiences, **unconscious** (3)] **subconsciousness**ⁿ, **the subconscious**ⁿ. — Fr *subconscient*, Ger *Unbewusstsein*

subcutaneous sensibility = the sensory capacity, allied to the touch senses, which exists in the deeper portion of the true skin (the **tela subcutanea**), and of which the Pacinian corpuscles are assumed to be a representative receptor [Sometimes applied also to muscle, bone, joint, and organic sensitivity] — Fr *sensibilité sous-cutanée*

subdural = beneath or within the dura, or outer covering of the brain

subhuman = pert to organisms or organic phenomena below the human level of organization [Usually applied to characteristics of animal rather than of plant life]

subinguinal = pert to or located on small regions lying just below the groin on either side of the front of the human body

subject = 1 the self or experiencing individual, 2 an individual or animal used for psychological experimentation, 3 any topic [Syn (2) **observer**, applied to human subjects who report their experiences under given experimental conditions, abbrev S] **subject**ᵃ (1), **subjective**ᵃ (1) — Ger (2) *Versuchsperson* (*Vp*)

subject of consciousness, subject-consciousness = the self considered as undergoing experiences [Distg fr **object of consciousness** = the experiences which the self undergoes]

subject organization = the constitution of the personality-function at the given moment or as the self for protracted continuity

subjective = 1 dependent upon the individual organism, 2 not admitting of record by physical instruments, 3 not open to verification by other investigators, 4 localized in psychological space within the observer's body (e g feelings, as contr w most visual data, etc) [In psychol the term **subjective data** and other phrases are used by different writers in senses (2), (3), and (4), often without precise discrimination Contr w **objective data**, etc Cf **objective**]

subjective accent = rhythm read into a series of impressions that objectively are alike and equally spaced [Syn **subjective rhythm, subjective accentuation**]

subjective psychology = the investigation of mental phenomena introspectively observed [Syn **introspective psychology** Contr w **objective psychology**]

subjective selection = (*biol*) any type of selection which involves consciousness

subjective sensations = sensations arising in connection with the external senses, where the sources of the stimuli are not external to the organism itself [E g entoptic phenomena, ringing in the ears]

subjective trait = a trait which is not accessible to measurement in terms of any standard performance, e g cheerfulness [Contr w **objective trait**]

sublimation = (*psychoan*) the unconscious process of deflecting the energy of the sexual impulse (i e libido) to new objects or aims of a non-sexual and socially useful goal [**sublimation** results in a desexualized sexual impulse Syn **diversion of sex energy** Cf **libido**] **sublimated**ᵃ — Ger *Sublimierung*

sublime/the = an object or situation which impresses the observer with the feeling of power, magnitude, loftiness, or moral greatness in that object or situation **sublime**ᵃ = characterizing the object or the feeling which it arouses

subliminal = below the threshold [Applies to (*a*) stimuli which are not sufficiently intense to arouse definite sensations, but which nevertheless have some effect upon the responses or mental life of the individual, or to (*b*) the effects of such stimuli, or to (*c*) differences between stimuli which are not sufficiently great for the differences to be perceived Not to be confused with **sublimated**] — Fr *infraliminaire*

subliminal consciousness, see **consciousness/subliminal** — Fr *conscience subliminale*

subliminal learning = acquisitions in the form of neurograms or habit equipment, which cannot be directly recalled — Fr *apprentissage (acquisition) infraliminaire*

subliminal stimulus = a stimulus of such slight intensity, saturation, etc that it fails to produce any conscious effect — Fr *stimulus infraliminaire*

sublingual = located below the tongue

submaxillary = located below the jaw (Accent -max-)

submental = pert to or located in the region just below the chin

submission, submissiveness = a mode of behavior in an individual s face-to-face relations with others, characterized by the tendency to yield to others, or to adjust one's behavior to the domination of others [Contr w **ascendance,** or **dominance** = characterized by effort to rule or control others] **submissive**[a] — Ger *Unterwerfung*

submissive reflex, see **catalepsy**

subnormal = below normal, i e varying from the normal in the direction of the less, or of inferiority

subordination = in classification, the placing of a given species, or class of data, as a lower group within or under a certain higher class or category [Contr w **coordination**] **subordinate**[a] — Ger *Unterordnung*

subordination/social = (*soc*) a term used by Georg Simmel to describe the type of social accommodation in which behavior (individual or group) is dominated by the actions of others or by impersonal principles or laws [**superordination** and **subordination** in part constitute the sociological analogy to **ascendence** and **submission,** respectively] **subordinate**[v]

subpotency = a lesser degree of potency in the inheritance of certain characters, as compared with others [Cf **potency, prepotency**] **subpotent**[a]

subscapular = pert to or located in the regions of the middle back below the scapula and above the lumbar regions

subservience, subserviency = willingness to subordinate one's behavior to the purpose or interests of another person [Contr w **mastery.** Cf **submission**] **subservient**[a] — Ger *Unterwurfigkeit*

subsistence = the presence or inclusion of an object or other datum, whether existent or not, in the field or universe of discourse [A logical and philosophical conception used to avoid the issue of the reality or present existence of the classes, etc under discussion Cf **form** (1)] **subsist**[v], **subsistent**[a]

substantia nigra, see **nigra/substantia**

substantive states = parts of an experience which have sufficient definiteness and sufficient duration to be observed and denoted by nouns, verbs, and adjectives [Contr (by James) w **transitive** (or **relational**) states, which elude distinct observation but are indicated by prepositions, conjunctions, etc] — Fr *états substantifs*

substitute[a] = syn for **conditioned,** in the expressions *substitute stimulus, substitute response* — Ger *Ersatz-*

substitution = (*math*) the replacing of a variable quantity by some specific value of it, in order to determine the corresponding value of a related variable or variables

substitution test = a type of test in which the task is to substitute the elements of one system of characters (e g numbers) for those of another (e g letters), the elements being paired according to a prearranged plan or key [In a typical example, the **symbol-digit test,** ten or fewer digits are paired with simple geometric forms]

subsume = to assign an object, datum, class of phenomena, or law to its logical position under a more general class or law **subsumption**[n]

subtraction method = a method of treating the results of **compound reaction** (or **response**) **time,** which consists in determining the simple sensory or muscular reaction time and subtracting this from the total time of the complex reaction (e g of recognizing a word or letter), the remainder being regarded as the time required for the special mental process (e g of recognition) [The validity of this method is challenged by contemporary psychologists, because the **higher mental processes** are now regarded as **Gestalten** and not as formed by the addition of certain fixed increments to simpler mental processes Kulpe effectively criticized the **subtraction method** in 1893 Cf **compound reaction**]

subtractive principle = in color mixture, a principle depending upon the fact that the apparent color of a pigment, or any body which selectively absorbs light of different wave-lengths, is complementary to the color of the light which is absorbed [This means that when two transparent colored screens are superimposed, the resulting color will differ from that which would be obtained by the mixture of all the wave-lengths of light yielded by both screens independently The latter type of mixture is strictly **additive,** in contr w the nominally **subtractive** result obtained by the combination of the screens The mixture of pigments also involves the **subtractive principle**] — Fr *principe soustractif*

successful act = 1 a response or a series of responses in trial and error learning which lead directly or advantageously toward the goal or objective, 2 a reaction to a portion of some situation, which is part of the most economical response to the total situation [Contr w **unsuccessful act**] — Fr *action réussie*

succession = 1 the serial replacement of one experience by another, 2 a temporal series of experiences [Distg fr **duration,** which characterizes an experience that occupies without change a period or extent of time Contr w **simultaneity**] **succeed**[v], **successive**[a]

successive = (*psychol*) characterizing two or more experiences which are present in contiguous segments of time [Contr w **simultaneous**]

sucking = 1 an early postnatal reflex, aroused by grasping the nipple with lips and tongue, whereby the mammalian infant draws milk through the lips into the mouth, 2 the entire chain of reflexes involved in the infant's feeding, including the swallowing reflex [(1) is mediated by the V (sensory, motor) cranial nerve To avoid ambiguity (1) is prefd , using the term **suckling** for the chain of reflexes, or food-getting instinct] — Fr *succion,* Ger *saugen, lutschen*

suckling = 1 the entire chain of reflexes in the infant involved in feeding, 2 the maternal act of giving breast to the infant, 3 a nursing infant [Cf **sucking**] **suckle**[v] (2) — Fr (1) *acte de teter,* (2) *allaitement,* (3) *nourrisson (-ne),* Ger (3) *Saugling*

sudomotor nerves = nerves which control sweat secretion

sudoriferous glands = glands in the skin which secrete a saline substance, called sweat

sudorific = pert to the secretion of the sweat glands

suffer = 1 (*pop*) to experience intense pain,

2 (*hist*) to permit, to accept without resistance **sufferer**ⁿ, **suffering**ⁿ (1) — Ger (1) *leiden*, (2) *zulassen*

sufficient reason/law of = a formula devised by Leibnitz according to which, given sufficient knowledge, one might discover why any specific occurrence is such as it is, and not otherwise [Contr w **insufficient reason**] — Fr *principe de raison suffisante*, Ger *Gesetz des zureichenden Grundes*

suggestibility = a more or less permanent susceptibility to suggestion **suggestible**ᵃ

suggestion = 1 the inducing or the attempt at inducing of an idea, belief, decision, action, etc by one individual in another through stimulation, whether verbal or otherwise, but exclusive of argument or command, 2 the stimulus, usually verbal in nature, by which one individual seeks to arouse action in another by circumventing the critical, integrative functions [In hypnosis the suggestion may take the form of a command Syn **heterosuggestion** Distg fr **autosuggestion** = the inducing of a belief, etc, by the individual in himself] **suggest**ᵛ

suggestion/negative = a suggestion which is designed to inhibit some other mental or motor process already under way or otherwise likely to become so [Cf **counter-suggestion, contra-suggestion**]

sui generis = unique in its class, single (or singular) [Used to designate an individual datum of any sort which is the sole instance in the class to which it belongs Lat]

sulcus, see **fissure**

sulkiness = a mood or disposition characterized by undue resentment, without marked motor expression, when one is rebuked, overruled, or ignored **sulky**ᵃ — Fr *bouderie*, Ger *Schmollen, Trotzen*

sum = (*math*) the amount obtained when two or more members are added

sum-total = an emphatic syn for **sum**

summation effect = the enhanced result of the rapid repetition of stimuli or excitations [The phenomenon occurs in the sensory process, through repetition of stimulations, in muscle contractions, through repetition of excitations]

summation of stimuli = the process of superimposing or adding other stimuli or other processes to an originally given stimulus or induced process [Sometimes used as syn for **summation effect**] **summate**ᵛ

summation/reflex = the fusion and mutual reinforcement of two or more afferent nerve impulses in the production of a reflex response

summation time = the longest interval between the presentation of two similar stimuli whose joint action produces a response

summation tone = a tone which is produced by the simultaneous sounding of two different tones, and whose pitch is equal to the sum of their vibration rates [Contr w **difference tone**, whose pitch is equal to the difference of the two vibration rates Cf **combination tone**] — Fr *son resultant additionnel, son de sommation*

superego = (*psychoan*) that part of the mental apparatus which criticizes the ego, and which produces distress, anxiety, or punishment whenever the ego tends to accept impulses emanating from the reservoir of primitive instinctual impulses (the id) [Conceived of as an inner monitor, syn w **unconscious conscience**, a deposit left by the earliest parental **object-choices** of the id, an energetic **reaction-formation** against these choices Cf **ego, id, ego-ideal**] — Fr *le surmoi, le super-ego*, Ger *Überich*

superficial = 1 (*anat*) pert to or located on the surface of the body or of an organ, 2 (*logic*) treating or dealing with only the obvious or apparent aspects of a problem, and failing to examine the underlying factors and fundamental principles involved [Contr w **deep**] **superficies**ⁿ (1), **surface**ⁿ (1), **superficiality**ⁿ (2) — Ger *oberflachlich, ausserlich*

superficial reflex = contraction of muscles elicited by scratching or pinching the skin immediately over or near them [Syn **skin r**]

superhuman = 1 beyond human knowledge or ability, 2 pert to a hypothetical *superman* — Fr *surhumain*, Ger *ubermenschlich*

superior adult = 1 loosely, an adult possessed of superior intelligence, 2 more technically, a person, of any age, possessed of the level of intelligence requisite to pass the **superior adult tests**

superior adult tests = 1 a group of six tests in the Stanford Revision of the Binet-Simon Scale lying in difficulty next above the group known as Year XVI, Average Adult, and assumed to represent a level of intelligence equivalent to a (theoretical) mental age of 18, 2 a set of unusually difficult and steeply graded tests known as the **Roback Mentality Tests for Superior Adults.** [Among the subtests included in (2) are **analogies, abstraction, subsumption,** and **cryptogram**]

superior child = 1 a child of high intelligence, i e with high **intelligence quotient,** 2 a child who possesses desirable traits to an unusual degree — Fr *enfant bien doué (d'elite)*

superior intelligence = the degree of general mental ability possessed by the best 20 or 25 per cent of persons tested by a reliable intelligence test, equivalent approx to an IQ of 110 or better on the Stanford Revision of the Binet-Simon Scale [This range of ability is often subdivided into three sections *superior* (in the narrow sense), IQ 110–120, *very superior*, IQ 120–140, *near genius*, IQ 140+]

superior oblique, rectus, see **eye-muscles**

superiority feeling = the subjective experience of exaggerated self-worth, i e the tendency to look upon one's own qualities, achievements, or possessions as superior to those of others [Contr w **inferiority feeling**, and sometimes regarded as an overcompensation for the latter] — Fr *sentiment de superiorite*

superman = a hypothetical being, superior to the human type, who is assumed to possess all the intellectual and other mental characters of man, without human limitations **superhuman**ᵃ (used more frequently to characterize that which is beyond human knowledge or power) — Fr *surhomme*, Ger *Übermensch*

supernatural = belonging to a higher order or system than that of nature, or transcending the ordinary course of nature [Distg fr **supernormal** = belonging to an unknown but natural order or system] — Fr *surnaturel*, Ger *ubernaturlich*

supernormal[a] = 1 characterizing certain occurrences which are not open to explanation in terms of any known principles of science, but which are believed to be consistent with natural law and destined with the advance of science to be reduced to natural law, 2 distinctly above the norm or median, e g in intelligence or other ability [Used in *psychical research* to designate certain supposed phenomena, or the mental processes which produce them Distg fr **supernatural** = beyond the domain of science] — Fr *surnormal*

supernormal recovery phase = a phase (following the total and partial refractory periods) in the recovery of conductivity in nerve fiber after the transmission of a nerve impulse, during which excitability and the intensity of the nerve impulse are increased above the normal

superstition = 1 a disposition or tendency to ascribe phenomena which admit of a natural explanation to occult or supernatural causes, 2 a belief or practice which manifests this tendency, 3 an accepted belief whose falsity has been scientifically demonstrated [Strictly, it is incorrect to apply the term to primitive attempts at scientific knowledge, or the adjective to individuals who lived before the falsity of these primitive beliefs was demonstrated Cf **magic, sciosophy**] **superstitious**[a] — Ger *Aberglaube*

supination = a movement of the hand or forelimb, usually rotary, which tends to bring the palmar surface upward [It sometimes occurs in the act of writing and fencing Contr. w **pronation**] **supinatory**[a]

supinator longus reflex = flexion of the forearm, elicited by tapping the tendon of the brachioradial muscle [Mediated by 5th cervical segment of spinal cord]

support/sense of = sensory processes connected with the muscle, pressure, and static senses, which furnish data whereby an animal maintains an erect or other normal posture against gravity [Cf **tonus**]

supposal = a mental attitude in which the subject is aware that the choice of an alternative is arbitrary [Syn **make-believe,** contr w **belief,** in which the alternative chosen is regarded as determined objectively]

supposition = a loose term denoting a casual assumption, and emphasizing its doubtful character [Syn **hypothesis**] **suppose**[v]

suppression = the tendency on the part of individuals to dismiss from consciousness the memory of unpleasant experiences, or thoughts, desires, etc, which are under social taboo [The psychoanalytic school interprets suppression as a conscious activity of inhibition, in contr w **repression,** which is an unconscious process, with W H R Rivers these meanings of the two terms are interchanged] — Ger *Unterdrückung*

suppression/social, see **social suppression**

supraclavicular = pert to or located in the triangular regions just above the clavicular regions (Accent **-vick-**)

supraliminal = above the threshold of sensation, or above the threshold of difference (Accent **-lim-**) — Fr *supraliminaire*, Ger *übermerklich*

supraliminal differences/method of, see **mean gradations/method of** — Ger *M der übermerklichen Unterschiede*

supraorbital = pert to or located in the region above the orbit, or eye-socket

supraorbital reflex = contraction of the orbicularis oculi (eyelid muscle) elicited by a tap over the supraorbital foramen [Mediated by trigeminofacial arc Syn **McCarthy's r, ophthalmic r**]

suprarenal = located above the kidneys [Syn **adrenal**] (Accent **-ree-**) — Fr *surrenal*

suprarenal capsule, glands, see **adrenal glands**

suprarenal cortex = the outer portion of the suprarenal glands — Fr *ecorce surrénale*

suprarenal medulla = the mass of chromaffin cells, together with the blood vessels, connective tissue cells, and nerve tissue, which constitute the histologically distinct central mass of a suprarenal body [Distg fr **suprarenal cortex** = the histologically distinct outer portion of a suprarenal body]

suprarenalin, see **epinephrin.**

suprarenin, see **epinephrin**

suprascapular = pert to or located on the regions at the top of the back, above the scapular regions

sural = pert to or located on the calf of the leg

surdimutism, see **deaf-mute**

surdity, see **deafness**

surface = 1 (*math*) a continuum having two dimensions, 2 (*psychol*) visual or tactual perception of objects in terms of a plane of two dimensions, i e without reference to depth — Ger *Fläche, Oberfläche*

surface color = a color which appears as definitely occupying the surface of a perceived object [Contr w **film color**] — Ger *Oberflächenfarbe*

surplus energy theory = the theory which explains the play activities of human and subhuman young as due to the superabundance of energy in growing organisms, this extra energy manifesting itself in inherited modes of behavior which are typical of the species

surprise = an attitude aroused by some unexpected situation which manifests itself in certain characteristic gestures, facial expression, etc [Applied to less violent demonstrations than those characterized by the terms **astonishment** and **alarm**] — Fr *étonnement, surprise,* Ger *Überraschung*

surreptitious = characterizing an unwarranted insertion of data, premise, or argument in a report or discussion, usually intentionally and always in an obscure way, which is designed or which tends to deceive the reader or listener **surreptitiously**[adv] — Fr *subreptice,* Ger *erschlichen*

surrogate = (*psychoan*) a representation of a person which conceals from conscious recognition the identity of that person [E g in a dream, a king or an unrecognized man may represent the dreamer's father, or an animal phobia may be a substitute for the fear of a certain member of the family]

sursumvergence = 1 a deviation of one eye upward, with respect to the other, from its position of fixation, in the absence of any artificial interference, 2 the measurement of the power of the eye to so deviate in overcoming the effect of a prism placed before it [Cf **convergence**]

survey tests = a type of test, esp of educational test, designed to afford reasonably exact information concerning the general level of attainment of a school class or other group of persons

[Distg fr **diagnostic tests** and from tests designed to give precise information concerning the abilities or needs of single individuals as contr w a group]

survivalⁿ = a mode of behavior which was distinctly useful to the organisms of a given species at an earlier stage of evolution, but which has become useless or without significance through changes in structure or modes of life [E g certain facial expressions, such as the snarling attitude, are said to be **survivals** of the predatory stage of man's ancestors A functional term, which corresponds to **vestige** in the structure of organisms] — Ger *Überleben, Überrest*

survival of the fittest = a phrase devised by Herbert Spencer to describe the results of biological competition or struggle for existence [Equivalent to "survival of the best adapted organisms" Cf **natural selection, struggle for existence**] — Fr *survivance des plus aptes*

survival value = the degree in which a given organic structure or mode of behavior is fitted to prolong the life of those individuals which possess it and the continuity of their line of descent [Applied esp to new variations in the structure of organisms or in modes of behavior, i e the greater their usefulness (in the given environment) the greater their **survival value**]

survive = to escape destruction as an organism **survival**ⁿ

suspense = an attitude which results from the balance of conflicting motives, or from the absence of certain data requisite to the formation of a decision or judgment, and which is characterized by the inhibition of responsive activity — Ger *Unschlüssigkeit*

suspicion = 1 a social attitude characterized by doubt of the sincerity of another, or of the friendliness of his attitude, 2 a trait which predisposes an individual to such doubt in his general social relations [Syn (2) **suspiciousness**] **suspicious**ᵃ — Fr *soupçon*, Ger *Argwohn, Verdacht*

sustained = prolonged or continued [E g sustained attention, a sustained tone] — Fr *soutenu*

suture of nerve = an artificial union of the cut ends of a severed nerve trunk, which permits regeneration by the outgrowth of nerve fibers along the course of the degenerated portion of the trunk

swallowing reflex = the simultaneous and chained activity of certain deglutition muscles in the mouth and throat, whereby liquid or solid food is passed from the mouth into the esophagus Mediated by V to XI cranial nerves and oblongata [Syn **deglutition**] — Fr *réflexe de déglutition*, Ger *Schluckreflex*

sweet = a quality of gustatory sensation of which the taste of cane-sugar is a typical example [Cf **gustatory qualities**] — Fr *sucré*, Ger *süss*

Swindle's ghost = an excessively long positive after sensation

swoon, see **syncope** — Fr *évanouissement*, Ger *Ohnmacht*

syllabism = the use of syllabic characters instead of letters as adopted in certain written languages e g the Japanese

syllable-span test = a mental test similar to the digit-span test except that syllables are used instead of digits [Cf **digit-span test**] — Fr *t de mémoire immédiate des syllabes*

syllogism = a form of reasoning or argument in which a general statement is given, followed by some more particular statement, the two together leading to a third or dependent statement, according to the accepted principles of logic [The preliminary statements are termed the **major** and **minor premise**, respectively, the final statement is called the **conclusion**] **syllogistic**ᵃ, **syllogize**ᵛ (rare)

Sylvian aqueduct, see **aqueduct of Sylvius**

Sylvian fissure, fissure of Sylvius = a deep groove or fissure on the lateral surface of each cerebral hemisphere, which extends horizontally from the gyrus frontalis inferior to the gyrus supra marginalis and demarcates the temporal from the frontal and parietal lobes — Fr *scissure de S* Ger *Sylvische Spalte*

symbiosis = the social relationship of one species with another [A generic term which includes all types of subordination, equality, and superiority, generally limited to subhuman species Cf **parasite, commensalism, myrmecophily**] **symbiotic**ᵃ

symbol = 1 (*psychol*) an object, expression, or responsive activity which replaces and becomes a representative substitute for another, 2 (*math*) a conventional mark used consistently to represent a class of things or a type of relation, 3 (*psychoan*) a disguised representation of unconscious sexual material, which has a constant meaning and is not consciously associated with sexual activity [In psychol, words are symbols for objects, ideas, etc, and verbal or other responsive activities are symbols for more general acts of behavior The terms *symbolic act, s behavior, s experience, s expression, s reaction, s response*, etc, are used in this sense In math a symbol may stand for an operation (e g +, =), or for any of the successsion of values which a variable may take See Table XV] — Ger *Sinnbild, Symbol*

symbol-digit test, see **substitution test**

symbolic act, etc, see **symbol**

symbolic function = the mental process whereby one idea, response, experience, etc becomes the representation or substitute of another [Cf **symbol**]

symbolism = 1 the systematic use of symbols, or the theory of symbols, 2 (*psychoan*) the expression of unconscious thinking, usually sexual, when the real meaning of an idea is so transformed as to become unrecognized by consciousness, 3 (*esth*) that form of art which makes a systematic use of symbols its chief method [(2) is considered by psychoanalysts to be the basis of myths, dreams, and wit, and a characteristic of neurotic symptoms Cf **symbol**] **symbolize**ᵛ, **symbolic**ᵃ

symbolization = (*psychoan*) a mental process occurring in dreams, wit, myths, neurotic manifestations etc, in which a situation or idea assumes an indirect, condensed or elaborated, but always figurative form [Cf **symbolism**]

symmetry = 1 (*biol*) the arrangement of the parts or constituents of a complex whole with reference to one another, such as to produce a balance, either of one side with the other, or of radiating sectors with one another, or of the members of a linear series, 2 (*esth*) regularity in the arrangement of the formal elements of an art object so that it may be divided into similar

parts [In (1) these three types are called **bilateral, radial,** and **linear symmetry** respectively, in each case the symmetry may be either 2- or 3- dimensional] **symmetric(al)**[a]

sympathetic ganglion = any one of the ganglia or nerve centers in the sympathetic nervous system [Applied also more generally to the entire set of ganglia belonging to the autonomic system] — Fr *ganglion sympathique*

sympathetic induction, see **induction/sympathetic**

sympathetic nervous system = 1 the system of ganglia lying outside the spinal cord in the thoracic and lumbar regions, together with the peripheral nerves connected therewith, which serve the organs of digestion, secretion, etc , 2 syn for **autonomic system** (1) [The narrower meaning (1) is prefd Distg (1) fr **parasympathetic n s**]

sympathetic vibration, see **resonance**

sympathy = 1 an emotion or emotional attitude aroused in an individual by the perception or idea of suffering in others, and characterized by a feeling of unpleasantness and usually by actions which tend to relieve this suffering, 2 the supposed tendency to repeat in oneself any emotion observed in another **sympathize**[v], **sympathetic**[a]. — Ger *Mitgefuhl, Sympathie*

symptom = 1 (*pathol*) any structural change or functional peculiarity which indicates the presence of a disease or disorder in a given individual, 2 (*general*) any phenomenon which points to the presence, otherwise unsuspected, of an underlying condition or incipient change, esp in the maturing of individual behavior or in the progress of social development, 3 (*psychoan*) a distortion or displacement of unconscious libidinal wish-fulfillments, whereby a genuine but disguised satisfaction for the libido is secured [Cf **index, symbol**] **symptomatic**[a] — Fr (1, 2, 3) *symptôme*, Ger (1) *Symptom*, (2) *Kennzeichen*

synapse, synapsis = the region of contact between the end of one neuron and the beginning of the next in a neural chain [It is characterized by a splitting of each nerve terminal into minute fibrils, which intermesh with the fibrils of the other terminal, or are applied directly to or within the body of the neuron Syn **synaptic junction**] (Accent (1) **syn-**, 2 syll , accent (2) **-aps-**) **synapses**[pl], **synaptic**[a]

synapse time = that part of the latent period of a reflex which is supposed to be consumed by transmission of the nerve impulse across synapses — Fr *temps synaptique*

synaptic junction, see **synapse**

syncope = a temporary suspension of consciousness due to cerebral anemia [Syn **swoon, swooning, faint, fainting,** all of which emphasize the onset rather than the condition itself] (3 syll)

syncretism = 1 a term (usually derogatory) employed to characterize an indiscriminate attempt to combine mutually incompatible doctrines into a system, 2 a type of thinking, characteristic of young children, in which analysis based upon objective relations, as conceived by adults, plays little or no part, in the mind of the child, everything is connected with everything else but not in terms of adult conceptions of time, space, or cause (Piaget) [Distg (1) fr **eclecticism**] **syncretic**[a]

syncryptic = pert to protective resemblances between diverse species

syncytium = an aggregation of cells between which there is some direct continuity of cytoplasm without separating membranes

syndactylism = the condition of having two or more fingers or toes partly or completely grown together or joined together by a webbed structure

syndrome = a term denoting the aggregate symptoms of a disease, i e a symptom complex, e g Parkinson's syndrome **syndromes**[pl]

synergic = exerting force together [Applied to groups of muscles all of which act together to produce extension (or flexion) of a joint or limb, or to produce a definite (purposive) action of the whole organism Contr w **antergic**]

synergic reflex, see **allied reflexes**

synergy = the union or combining together of partial or elementary motor processes or movements into a complex motor process or coordinate movement [Cf **coordination/muscular**] **synergic**[a] — Ger *Zusammenwirken, Synergie*

synergy theory = the theory that mental synthesis consists in a unitary response, whether perceptual or motor, aroused by the aggregate of sensory or other elements, which are conceived as stimuli converging upon a single response mechanism (Woodworth)

synesthesia, synaesthesia, syn(a)esthesis = a phenomenon characterizing the experiences of certain individuals, in which certain sensations belonging to one sense or mode attach to certain sensations of another group and appear regularly whenever a stimulus of the latter type occurs [There are various types, of which **colored hearing (synopsia)** is the most common, e g the vocal sound *o* may appear red] **synesthetic**[a], **synesthete**[np].

synonym-antonym test = a type of test in which pairs of synonymous words and pairs of antonyms (opposites) are presented in random order, the task being to indicate which pairs of words are synonyms and which antonyms [E g test 4 of Army Alpha Syn **same-opposite test**]

synopsia = a type of **synesthesia** in which visual sensations are closely associated with auditory sensations and appear regularly whenever the latter are stimulated [Usually a given quality of visual sensation is associated with some specific quality of audition] Cf **colored hearing, synesthesia**

syntactical aphasia, see **aphasia**

syntechnic = characterizing an incidental resemblance of any sort between two unallied organic species

synthesis = the joining together, either actually or in thought, of two or more data of any sort whatever, so as to form a complex unit [Distg fr **association,** in which the mutual interaction of the data joined together is minimized or neglected (though by some writers association as a mental operation is regarded as the *basis* of all mental synthesis), fr **fusion,** in which the data lose their individual identity, and fr **integration,** which emphasizes the formation out of the elements of a *compact* whole, **association** and **fusion** are applied in psychology chiefly to **mental contents, synthesis** and **integration** to any data Cf **creative synthesis** and **mental chemistry** Contr w **analysis** = the separation of a complex unit into its constituents] **synthesize**[v], **synthetic**[a] — Ger *Verknupfung*

synthesis/chemical, see **chemical synthesis**

synthesis/mental, see **mental synthesis**

syntonic = characterizing a type of personality which is emotionally responsive to the environment so as to give reactions suited to each momentary situation [Regarded by Bleuler as the normal type from which manic-depressive insanity arises by exaggeration] **syntone**[n]

syringomyelia = (*pathol*) an extensive longitudinal cavity formation in the spinal cord and medulla, often with abolition (dissociation) only of the pain and temperature senses (7 syll , accent 5th, -ee-)

system = 1 a group of entities or data which are related to one another by interaction or interdependence, 2 a group of concepts or principles which serve as a framework for holding in orderly arrangement the data of any branch of science, 3 (*Gestalt*) a totality, phenomenal or actual, all the parts or aspects of which are interrelated members of the whole **systematic**[a], **systematize**[v] (2)

system/mental = the mental life of an individual, regarded as a progressive organization of experiences and functions into a **system**, or unitary whole

systematic determination = the serial flow or progress of thought in an individual, which proceeds according to the principles of association

systematic error = an error due to the manner of collecting the data or of their subsequent treatment, which results in a tendency to diverge from the truth continually in the same direction [Contr w **incidental error**]

systematic errors of observation = alterations in the values under investigation which occur persistently and are due to some general bias of the observer or to the method of conducting the investigation [A special case of this is **constant error,** in which the alterations are all in one direction Contr w **accidental errors** Cf **personal equation**]

systematized amnesia, see **amnesia/localized.**

systemic sense = a generic name for those senses whose receptors are distributed in the internal organs (i e interoceptors), in contradistinction to the senses whose receptors are distributed more superficially (e g the cutaneous and special senses) [Syn **visceral sense** Cf **organic sense, sensitivity/visceral**] — Ger *Gemeinsinn*

systole = 1 the duration of a single contraction of the heart, 2 the phase of contraction of the heart's activity [Contr w **diastole**] (3 syll) **systolic**[a].

T

T-scale = a scale used in interpreting scores obtained on a test, it ordinarily ranges from 0 to 100 (or from -5σ to $+5\sigma$), the unit of measurement being one-tenth of the standard deviation of unselected 12-year old children, whose mean score is 50 on the scale [The scores on this scale are called **T-scores**] — Fr *échelle T*

T-type = in eidetic theory, a type of individual who manifests certain tetanoid symptoms and a disposition to eidetic imagery that is obsessive, inflexible, photographic [According to W Jaensch, the imagery is diminished by calcium treatment Cf **B-type**]

tabes, tabes dorsalis = a disease of the posterior columns of the spinal cord, marked by loss of muscular sensation and by inability to make coordinated movements with those parts of the body corresponding to the affected segments of the cord [Sometimes called **locomotor ataxia**] **tabetic**[a] — Ger *Rückenmarksschwindsucht*

table-turning, table-tipping, see **autoscope.**

taboo, tabu = 1 (*anthrop*) a conventional ban placed by tradition or custom upon certain acts, modes of dress, topics, or words in conversation, etc , the infringement of such convention being a matter not of legal prosecution but of social reproval and persecution, 2 (*relig*) an interdiction of intercourse with, approach to, or handling of given persons, places, or objects, except by privileged persons (e g priests) or in prescribed ways, religious taboo is based upon the assumed sacredness and consequent dangerousness of the persons, places, or objects in question, 3 (*psychoan*) a prohibition enforced from without, concerning actions which are strongly wished or desired [Syn **negative magic.** While the subject matter of taboo varies tremendously with culture-stage, community, and area, the social attitudes toward infringement are very dissimilar]

tabula rasa = a blank tablet or clean slate [Lat A figure of speech employed by 17th and 18th century writers to express the idea that the mind of the new-born babe is prepared to receive impressions, but at the outset has no innate impression or content The phrase came into use through the popular Stoic manuals written in Latin in the 17th century The Greek equivalent is found in a fragment of Chrysippus, but the modern use of it as the typical formula of the empirical school does not accurately represent its original meaning, nor should the term be confused with the wax-tablet simile introduced by Plato, which had reference only to images and memory Locke (1690) at the beginning of British empiricism, compared the babe's mind to a piece of white paper]

tabulation = the arrangement of a collection of data or results in tabular form, i e in two or more columns (or rows), the corresponding rows (or lines) in each column (or row) presenting comparable data **tabulate**[v], **tabular**[a] — Ger *Tabellierung*

tachistoscope = an instrument for the presentation of visual stimuli such as a picture, a word, or a group of symbols, or for successive presentation of a series of any such data, the duration of each single stimulus being extremely short, exposure time varies according to the aim of the experiment, the onset and disappearance of the whole field is practically instantaneous [The exposure may be controlled by a falling screen (gravity tachistoscope), by a moving pendulum (as in Whipple tachistoscope), by a spring-actuated shutter (focal plane shutter type), or by use of a transparent mirror (Dodge exposure apparatus)]

tachometer = a variety of devices for measuring linear or angular velocity or change in velocity, most commonly applied to a manual instrument which, through the operation of centrifugal force and a hand on a dial, is used to measure the revolutions per minute of shafting [Syn **hematachometer, speedometer, speed counter.**] — Ger *Tourenzähler*

tachycardia = excessive (often paroxysmal) rapidity in the action of the heart [Term usually limited in the human heart to a rate of over 130 beats per second]

tachyphemia, tachylogia = a form of dysphemia characterized by morbid rapidity or volubility of speech [Observed in nervous patients]

tacit = assumed or agreed upon implicitly, i e without being actually stated in words, and often without being recognized, e g a tacit assumption — Ger *schweigend*

tact = the ability displayed by certain individuals to adjust themselves socially to others, esp in conversation, so as to promote friendly relations and to avoid remarks, topics, or situations, likely to engender an antagonistic attitude [Contr w **tactlessness** = the propensity of certain individuals to arouse antagonism somewhat needlessly] **tactful**[a] — Ger *Taktgefuhl*

tactile, see **tactual**

tactile circle = a cutaneous area within which two points of pressure are perceived as a single point [Syn **sensory circle** (E H Weber, 1836), **tactile field**]

tactual, tactile = pert to the sense of touch [Either form is correct **tactual** is prefd as corresponding to **visual**] — Ger *Tast-*

tactual (or **tactile**) **illusions** = illusions in the field of tactual or cutaneous sensation [Cf **illusion**, and Table XII] — Ger *Tasttauschungen*

tactual (or **tactile**) **sensation**, see **touch sensation**

Talbot-Plateau law = the principle that periodically variable or intermittent light-stimuli of any sort, when presented at a frequency sufficiently high to eliminate flicker, have an effect upon the organ of vision indistinguishable from that due to the same total flux of energy continuously and uniformly applied

talent = a natural aptitude which renders the possessor susceptible to a high degree of training in some special field of endeavor, such as music, diplomacy, etc — Ger *Talent, Anlage*

talisman = a figure, inscription, or object of any sort which is believed to possess magical properties favorable to the possessor

tambour = a drum-shaped vessel (usually quite shallow) covered on one side with an elastic membrane to which a writing lever is attached so as to record changes communicated to it through an enclosed column of air [Cf **Marey tambour**]

taming = the process of teaching an animal to obey the experimenter's commands and to inhibit fierce or sudden natural responses **tame**[v] — Fr *apprivoisement* Ger *Zahmung*

tantrum = a violent display of ill-temper aroused without adequate cause so far as the external situation is concerned, for the most part manifested by children or adolescents [Syn **temper tantrum**] — Fr *accès de colère*, Ger *Wutanfall*

tanyphonia = a form of **dysphonia** characterized by a thin voice

taphophobia = morbid fear of being buried alive

tapping board = an apparatus for measuring manual tapping performance, it usually consists of a metal plate on which the subject taps with a metal stylus, the taps being registered either by a mechanical or by an electromagnetic counter — Fr *planche de tapping*

tapping test = a test in which the testee is directed to make (usually with a pencil or metal stylus) as many taps as possible within a given time limit [The test puts a premium upon speed rather than precision of voluntary movement, and has been regarded as an index of motor capacity]

Tarchanoff phenomenon, see **galvanic skin reflex**

target test, see **aiming test**

Tartini's tone, see **difference tone**

task, see **Aufgabe** — Fr *tâche*

taste = 1 a quality of **gustatory sensation**, 2 syn for (the sense of) **gustation**, 3 capacity for making valid esthetic judgments [Contemporary investigators usually limit gustatory qualities, i e **tastes** (1), to four saline, sweet, sour, and bitter Henning lists these as primary tastes (like primary colors), with simple intermediate tastes connecting them Cf **taste tetrahedron, alkaline**] — Fr *goût*, Ger *Geschmack*

taste bud = a bottle-shaped epithelial structure which contains receptor cells of gustation [These structures are found in all mucous membrane which is sensitive to taste, esp in the circumvallate, fungiform, and foliate papillae of the tongue Syn **taste-bulb, taste-beaker** Cf **papilla/lingual**] — Fr *bourgeon gustatif*, Ger *Geschmacksknospe, Schmeckbecher*

taste tetrahedron = a figure devised by Henning to show in schematic fashion the mutual relations of the four principal tastes, and the transitional tastes between them [Cf **gustation**, and **gustatory qualities**]

tau effect = an illusion in which judgment of spatial intervals is influenced by the temporal intervals involved

tautology = repetition of the same word or phrase, or of a literal equivalent in the same sentence [Applied most frequently to the inclusion of a word or its equivalent in the definition of that word] **tautological**[a]

taxinomy, taxonomy = the investigation of the principles of classification **taxinomic**[a], **taxonomic**[a] (etymol incorrect, but more usual form)

taxis = a generic type of simple response whereby motile organisms orient themselves as a whole to the source of external stimulation [Syn **tropism**, this term (applied originally to sessile organisms) has superseded **taxis** The principal **taxes** are *chemotaxis, galvanotaxis, geotaxis, hydrotaxis, phototaxis, rheotaxis, stereotaxis, thermotaxis, thigmotaxis*] **taxes**[pl], **tactic**[a] (rare, except in compounds) — Fr *tactisme*

Taylorism, Taylor system, see **scientific management**

tears = the saline secretion of the lacrimal glands **weep**[v] — Fr *larmes*, Ger *Tranen*

teasing = a form of social behavior by which an individual, though adopting a playful attitude himself, intentionally induces in another a feeling and attitude of annoyance [Applied to comparatively trivial stimuli and minor annoyances] **tease**[v] — Fr *taquinerie*, Ger *Neckerei*

technical = pert to some branch of science or art esp to the practical details rather than to principle or theory

technical term = a word or phrase used in any science in a specialized way, to denote some datum, method, or other subject-matter comprised within the given field [Generally used

to distinguish the scientific from the common or popular meaning of a given term.]

technique, technic = 1. (*pop.*) a characteristic way of achieving a given end by specially skilled manual or other bodily activity as distg. fr. mere verbalization; 2. (*exper.*) the specific way or means of securing data or of working upon an experimental problem. [**Technique** may involve method, procedure, apparatus, and (in psychol.) the individuality of the experimenter or the observer. It is limited to the conduct of research as distinct from the treatment of results.] **technical**[a] (a broader term).

technopsychology, see **psychotechnology**.

tectorial membrane, tectorium = a spiral body, made up of clear fibers in a soft matrix, which lies over the internal spiral sulcus and organ of Corti within the cochlear duct of the ear, with its inner edge attached to the limbus of the spiral lamina. [Its lower surface is believed to lie normally in close contact with the hairs of the sense-cells of the organ of Corti, serving as a bearing surface against which the hairs are pushed with the movements of the basilar membrane in response to sound.]

tegmentum = 1. the outer covering of organisms; 2. (*neurol.*) the dorsal layer which covers the crura cerebri and the pons as viewed in transverse sections. — Fr. (1) *tegument*, (2) *étage supérieur du pédoncule*.

tela subcutanea = the deeper layer of the connective tissue stratum of the skin. [Cf. **skin**.]

telegnosis = (*psych. res.*) knowledge of distant events assumed to be obtained by other than sensory means. [A generic term including **clairvoyance** and **clairaudience**, a form of **cryptesthesia**. Cf. **metagnomy**.]

telegony = the supposed influence of an earlier impregnation upon the character of the same mother's later offspring by another male.

telekinesis = (*psych. res.*) levitation or movement of objects in the presence of a medium, without contact, attributed to unknown or occult forces. **telekinetic**[a].

telencephalon = the anterior end of the brain considered from the developmental standpoint, consisting chiefly of the cerebral hemispheres. [Syn. **end-brain**. Cf. **neencephalon, prosencephalon**.]

tele(o)ceptor, see **distant receptor**.

teleology = 1. the investigation of such acts of behavior and events as are carried out with reference to some future situation; 2. the characteristic of certain acts of behavior in that they relate to future situations; 3. the doctrine that certain trains of events are directed toward goals or ends, i.e. that the nature of the end in some sense and degree plays a part in determining or governing the course of those events; 4. the theory that organic processes depend upon a formative agency directed toward some end. [Syn. **purpose**, strictly, **teleology** is the scientific investigation, **purposiveness** is the characteristic, and **purpose, aim, end,** etc. denote the future situation as a factor in determining the present behavior.] (1) **teleological**[a], **telic**[a] (2–4).

teleostereoscope = an instrument which causes an object or scene, either actually or pictorially presented, to be seen in exaggerated relief, or solidity, and to seem also closer at hand. [In the usual form the effect is produced through a series of mirrors which cause the images to be seen as if the eyes were much farther apart from each other (greater interocular distance) than normally.]

telepathy = (*psych. res.*) the communication of feelings, impulses, ideas, or more complex experiences, from one mind to another, which is assumed to be effected without sense organs. [Distg. fr. **mind-reading**, which makes conscious or unconscious use of the special senses in reading signals, signs, or cues, and fr. **muscle-reading**, which makes use of muscular twitches or ideomotor cues through physical contact; syn. **thought transference**.] **telepathic**[a]. — Ger. *Gedankenübertragung*.

telephone theory of hearing, see **hearing/theories of**.

telephone transmitter, see **microphone**.

teleplasm = (*psych. res.*) a hypothetical emanation from the body of a medium, which is supposed to pass through vaporous and viscous states to that of flesh and bone indistinguishable from a proper member of a human body, and occasionally to attain the proportions of a complete and independently active person (a materialized séance personality). [It is said to be responsible for **telekinesis**, i.e. the movement of objects at a distance. Syn. **ectoplasm** (discarded because of its established place in biology). A more neutral term (e.g. **metaplasm**) would be preferable.]

telergy = (*psych. res.*) the supposed direct influence of the mind of a person or spirit upon the brain of another person. [A process resulting in **telepathy** (Myers).]

telesis = the realization, or accomplishment, of an end, or purpose.

telesthesia = (*psych. res.*) 1. sensibility for events at a supernormal distance; 2. sensitivity for simple stimuli at a source beyond the normal range. [(1) is a form of **cryptesthesia**, prefd. to syn. **clairvoyance** when modality of sense is not defined.] **telesthetic**[a].

telesthetic taste = the chemical or food sense in aquatic animals. [A term proposed by Lloyd Morgan, on the ground that it corresponds to the taste sense but includes distant reception of stimuli.] — Fr. *goût télesthétique*.

teletactor = an instrument used to transmit the vibrations caused by sound waves to the skin, used experimentally and practically in the instruction of the deaf in speech, in speech reading, and in musical appreciation.

telic[a] = characterizing a final end or purpose, i.e. with intention. [Contr. w. **ecbatic**, which is mere result or consequence without aim or intention.]

telodendron = the branching terminal of the axon of a neuron. [Syn. **endbrush**.]

temper[n] = 1. (*pop.*) a display of anger, or an undue readiness to become angry; 2. (*hist.*) syn. for temperament (1); 3. the expression of the way in which the conative impulses work within an individual, i.e. the strength or urgency of an individual's impulses (McDougall). — Ger. *Laune*.

temper[v] (*mus.*), see **temperament** (2).

temperament = 1. (*psychol.*) the general affective nature of an individual as determined by his inheritance and life history; 2. the sum of the effects upon one's mental life of the metabolism or chemical changes that are constantly going on in all the tissues of one's body (Mc-

Dougall) [Various types and degrees are differentiated according as these factors modify the character, intensity and direction of the individual's responses to specific stimuli and situations Attributed by Hippocrates and Galen to predominance of some one of the humors in the body The ancients recognized 4 classes, **sanguine, melancholic, choleric, phlegmatic** The temperaments are now attributed to the functions of endocrine glands **nervous temperament,** high excitability of the nerves, physiological in origin (Hadfield)] **temperamental**[a] (usually implying alternation of moods and intensity of responsive reactions)

temperament = 3 (*mus*) the system of tuning a pianoforte or other fixed tone instrument [In **just temperament** the theoretically correct tone intervals are maintained for a certain key, but when modulation is attempted the intervals are not correct for other keys **Mean tone temperament** is based upon an interval halfway between the great and the small major second, modulation is possible but only to certain keys The **equal temperament** generally used today was advocated by J S Bach and divides the octave into 12 equal semitones, in **equal temperament** the only correct interval is the octave, but the practical gain is that modulation is equally possible in all keys] **tempered**[a] [Cf **scale** (2)]

temperature = the average amount of heat in a given substance or region, measured in physical units **thermal**[a]

temperature illusion = the overestimation of a warm or cold environment when one's body or some member has been stimulated just before by a less warm or a less cold environment respectively [Locke describes an experiment in which the two hands are held for a time, one in warm water, the other in cold When both are transferred to luke-warm water the former feels cold, the latter warm]

temperature sensation = a generic term applied to both **cold** and **warmth sensations**

temperature senses = the senses of **warmth** and **cold**

temperature sensitivity = the ability of an organism to distinguish degrees of warmth (or cold) by means of specific receptors

temperature spot = a generic term applied to both **cold spots** and **warm spots** on the skin — Fr *point de sensibilité thermique*

tempered scale, see **scale** (2), **temperament** (2)

temporal = 1 pert to time or to time relations — Ger *zeitlich*

temporal = 2 pert to or located at the temples, i e the sides of the forehead

temporal bone = a bone at the side and base of the skull, which contains the mechanisms of hearing [The external auditory meatus is in the tympanic and squamous portions, and the internal ear in the petrous portion] — Fr *os temporal*, Ger *Schläfenbein*

temporal lobe = a major division of either cerebral hemisphere, comprising (in man) that portion which lies on the under surface and side of the brain ventrad to the Sylvian fissure, and is bounded caudally by the bifurcation of the sulcus temporalis superior — Ger *Schläfenlappen*

temporal maze = a maze where the subject must pass through the same alleys and same parts of the extra-maze environment more than once, so that a temporal succession of movements without different localization in space is learned [In the **double alternation** form, used to study symbolic processes]

temporal perspective, see **perspective/temporal.**

temporal sign = any characteristic of a memory experience which serves as a cue to locate the original experience at a certain point in the time series

temporality = the time-attribute or characteristic of sensation or other experiences [Syn **protensity, duration**] **temporal**[a]

temptation = a stimulus or motive which tends to change the direction of an individual's attention and activity from a well-considered or dominant course of behavior to some incidental action **tempt**[v] — Ger *Versuchung*

tendency = 1 the characteristic of certain movements, changes, courses of events, or masses of data of any sort, such that they indicate a definite line or direction of progression or an approach to some point or goal which the observed phenomena or data may not actually attain, 2 the characteristic or quality of an organism which furnishes the basis for the persistence of a given type of behavior despite fairly wide variety in stimulating conditions [(1) is used generally in connection with a specification of the point or goal which the data appear to approach Syn **trend,** applied to a series of events] **tend**[v] — Fr *tendance*, Ger *Tendenz*

tendency/acquired = an impulse to respond or behave, which is essentially the product of education or training [Generally contr w **inherited tendency** = an impulse which is native and need not be learned]

tendency/central (*math*), see **central tendency**

tendency/determining, see **determining tendency** and **directive tendency**

tendency/inherited = an impulse to respond or behave which is native, i e which need not be learned [Contr w **acquired tendency**] — Fr *tendance innée*

tendency/perseverative, see **perseveration**

tendo calcaneus (or Achilles) reflex, see **Achilles' tendon reflex**

tendon = the fibrous cord of inelastic connective tissue in which the muscle fibers end, and by means of which they are attached to a bone or other structure **tendinous**[a] — Ger *Sehne*

tendon reflex = contraction of a muscle produced by percussing (i e smartly tapping) its tendon, e g the knee-jerk

tendon (or tendinous) sensation = a type of kinesthetic sensation aroused by stimulation of receptors situated in the tendons [Generally used in connection with the term **joint sensation,** since the location of these two sorts of reception is not clearly differentiated Cf **articular sensation**] — Ger *Sehnenempfindung*

tendon spindle = a nerve ending which consists of an elongated elliptical mass pierced by medullated nerve fibers situate near the junction of tendon and muscle [Syn **neurotendinous spindle, Golgi (or Golgi-Mazzoni) corpuscles**] — Fr *fuseau tendineux*

Tenon's capsule = a fibrous sheath which envelops the back of the eyeball, the tendons of its extrinsic muscles, and to a certain extent the

muscles themselves, it constitutes the socket within which the eyeball turns

tenotomy = the surgical operation of cutting a tendon to correct a fault due to contracture or overaction of the muscle [Practiced in ophthalmology to correct **heterophoria**, esp **strabismus**]

tense[a] = 1 stretched taut, 2 characterizing an individual attitude or social situation of strain [Cf **tension**] — Fr *tendu*, Ger (1) *straff*, (2) *gespannt*

tension = 1 a feeling of strain or suspense, 2 the condition of muscle when it is acting against considerable resistance, 3 a state of inequilibrium produced in an organism, which leads to a change in behavior tending to restore equilibrium — Ger *Spannung*

tension/law of = a principle formulated by J R L Delboeuf as a partial substitute for Weber's law, starting with the postulate that an organism is normally accommodated to a certain optimal level of external stimuli (temperature, atmospheric pressure, illumination, sound), the law states that any change (increase or decrease) in these stimuli produces a condition of disequilibrium or **tension** in the organism, this tension constitutes the excitation whose conscious accompaniment is the sensation, these tensions and sensations thus have an upper (positive) and a lower (negative) limit, where they pass into some kind of distress or fatigue [Cf **degradation/law of, progression/law of**]

tension-relaxation/feeling of = one of the three dimensions or attributes of affective experience (Wundt) [Introspective evidence indicates that judgments of tension are referable to kinesthetic sensation rather than to affection] — Ger *Spannungs-Losungsgefühl*

tension/sensation of, see **strain** (3)

tentative = characterizing a preliminary or trial hypothesis or evaluation or procedure [Contr w **definitive**]

teratology = the branch of biology which deals with structural malformations of organisms [E g acephalic monsters hermaphrodites, supernumerary limbs, deficiencies of members, double monsters, etc] **teratological**[a]

term = 1 the verbal expression of a concept or definite idea, 2 one of the simple items between which relations subsist, 3 (*hist*) a natural boundary of a thing or event [In science and technology the word **term** (1) is applied to any word or phrase which designates any datum, instrument, method, etc within the scope of the given branch, the meaning (and definition) of such terms is (in theory at least) precise and unambiguous, and may be distg in that respect fr the pop use of the same terms] — Ger (1) *Ausdruck*, (2) *Glied*, (3) *Grenze*

Terman group test of mental ability = a battery of ten verbal tests devised by L M Terman as a measure of the general mental ability of testees in grades 7 to 12 [The component tests are information, best answer, word meaning, logical selection, arithmetic, sentence meaning, analogies, mixed sentences, classification, and number series]

terminal inhibition = the checking or stopping of the activity of a muscle by the action of an antagonistic muscle

terminal organ = (*psychol*) the special organ connected with either of the two terminals of the neural arc, called **receptor and effector** respectively

terminal sensitivity = the greatest degree of intensity of sensation that the organism is capable of experiencing [Contr w **liminal** or **minimal sensitivity** = the faintest degree of sensation as the intensity of the stimulus approaches zero] — Ger *Reizhohe, Grenze*

terminology = the systematic treatment of terms in any branch of science [Cf **nomenclature, term**] **terminological**[a]

terror = an extreme emotional manifestation of fear [Applied to both normal and pathological phenomena] **terrified**[a], **terror-stricken**[a] — Ger *Schrecken, Grausen*

tesselated = (*biol*) characterizing inherited structural patterns in which two different colors or textures alternate in checker-board fashion on the body covering of the creature [Syn **checkered**] — Fr *en mosaique*

test = 1 (*logic*) any criterion or procedure used to determine the truth or falsity of a hypothesis, either by empirical evidence or by reasoning, 2 (*psychol*) a routine examination administered to individuals belonging to the same group, in order to determine the relative position of a given individual in the group with respect to one or more mental traits, motor abilities, etc or in order to compare one group with another in these characteristics [In practice a series or battery of psychological tests (2) is generally used, and the scores are arranged or plotted on a definite scale, cf **mental test, scale** (1)] **tester**[np] (contr rarely w **testee**, the individual tested) — Fr (1) *epreuve*, (2) *test*, Ger (1) *Prufung*, (2) *Test, Probe*

test age = the standing, or rating, obtained by a testee in any test, which is scored in terms of age, or in which a point score is transmuted into terms of age, e g mental age, arithmetical age, etc

test chart test card = (*vis*) a series of letters, numerals, arbitrary characters, lines, or pictures, used to determine visual acuity and the range of distinct vision [They are usually arranged in rows, each row consisting of smaller letters, etc than the one immediately above **visual acuity** varies inversely with the size of the letters, etc] — Fr *optotypes, caracteres pour l'examen de l'acuite visuelle*

test/mental, see **mental test**

test scaling = the process of arranging or grading the material of a test, and the scoring of it in such a way as to secure a series of quantitative values in which (ideally) each unit shall be equal to every other unit, and in which (ideally) each quantitative value shall denote a proportionate amount, above zero, of the ability being measured [Tests are commonly scaled in terms of points (**point scale**), or in terms of ages (**age scale**)] — Fr *depouillement des tests*

test score = the measure of performance, usually numerical, on some given **test** — Fr *notation de l'epreuve*

test standardization, see **standardization of tests**

test value = a tentative result, obtained with a relatively few observations, designed primarily to determine the limits of the stimuli to be employed in psychophysical experimentation (Titchener)

testimony = 1 the oral or written statements of a witness used as evidence of certain facts and

events, 2 (figuratively) any evidence produced to substantiate a hypothesis [(1) applies to court trials and to the reports given by subjects in the **Aussage tests**] **testify**[v]. — Fr *témoignage*, Ger *Zeugnis*, *Aussage*

testis, testicle = a gland which produces male sex-cells [Contr w **ovary**, a gland which produces female sex cells **gonad** is a generic name for any gland which produces sex-cells] **testes**[pl] — Ger *Hode*, *Testikel*

tetanus = a state of continued contraction of a muscle due to a rapid succession of nerve impulses [In the skeletal muscles of warm-blooded animals, the range is from 10 to 100 per second Characterized by absence of twitching] **tetanic**[a] — Ger *Starrkrampf*, *Muskelzusammenziehung*

tetrachromatism = 1 color vision characterized by ability to discriminate all four of the Hering primaries, 2 a color theory based on the assumption of four primaries, red, green, yellow, and blue

tetrad = 1 (*mus*) a chord composed of four tones, e g c-a-g-c′, 2 see **tetrad equation**

tetrad equation = the equation $t_{1234} = r_{12}r_{34} - r_{13}r_{24}$, where v_1, v_2, v_3, v_4 represent four tests, and r a product moment coefficient of correlation (Spearman) [The right-hand member of this equation is called the **tetrad** The equality of the **tetrad** to zero is the important criterion in Spearman's theory of two factors The difference between $r_{12}r_{34}$ and $r_{13}r_{24}$ is called the **tetrad difference**, or simply the **tetrad**]

tetraploid = (*biol*) having four sets of chromosomes [Cf **diploid, triploid**]

text-blindness, see **alexia** — Fr *cécité verbale*

thalamencephalon, see **diencephalon**

thalamus, optic thalamus = a central mass of gray matter situate at the base of the cerebrum, bounding and projecting into the third ventricle [It is developed from the walls of the first primary cerebral vesicle and comprises a number of cell groups forming recognizable nuclei It contains the central terminals of afferent neurons] (Accent **thal-**) **thalami**[pl], **thalamic**[a]. — Fr *couches optiques*, Ger *Sehhügel*

thanatomania = suicidal or homicidal mania.

thanatophobia = morbid fear of death

thaumatrope, see **stroboscope**

theme = 1 a topic presented for discussion, 2 the systematic discussion of a given topic, 3 (*mus*) a simple melody which serves as the basis for varied development — Ger (1) *Aufgabe*, (2) *Aufsatz*, (3) *Thema*

theorem = 1 (*logic*) a proposition which is capable of being proved by a relatively restricted series of steps, 2 (*math*) a statement of relation (or of a set of conditions) for which rigorous proof can be adduced — Ger *Lehrsatz*.

theory = 1 a general principle or formula propounded for the purpose of explaining some given group of phenomena, 2 (*pop*) a principle based on reasoning but apparently impracticable in immediate application [Distg fr **hypothesis**, in that a body of evidence more substantial is available than in the case of a hypothesis] **theoretic(al)**[a] (emphasizes the possible divergence of the principle or formula from actual facts)

theory of knowledge, see **epistemology** — Fr *t de la connaissance*, Ger *Erkenntnistheorie*

therapeutics, therapy = the branch of medical science which deals with the treatment or application of remedies to the cure, alleviation, or prevention of disease **therapeutic**[a]

therapeutics/mental, see **psychotherapy**

therblig = a name for an identifiable part of a repeated work-act (such as *search*, *find*, *select*, *grasp*, *transport*, etc) devised by F B Gilbreth as an aid in recording and studying the motions of the worker, in the interest of economy of movement [An inversion of the originator's name]

theriomorphism, see **anthropomorphism.**

thermal sense, see **temperature senses.**

thermal stimulation = the application or withdrawal of physical heat, by either convection or radiation, to excite a receptor

thermalgesia, thermoalgesia = a condition of the organism in which a warmth stimulus causes a pain sensation **thermalgesic**[a]

thermalgia = 1 a sensation of burning pain, 2 (*med*) pain produced by heat [Syn **causalgia**] **thermalgic**[a]

thermanalgesia, thermoanalgesia, see **thermanesthesia**

thermanesthesia, thermanaesthesia = insensitivity to warmth and cold stimuli [Syn **thermanalgesia, thermoanalgesia**] **thermanesthetic**[a]

thermesthesia, thermaesthesia = sensitivity to warmth and cold, i e the ability to feel changes in temperature [Syn **temperature sense(s)**] **thermesthetic**[a]

thermesthesiometer, thermo(a)esthesiometer = an apparatus devised to furnish continuous warm or cold stimulation to the skin at controlled temperatures, usually by means of mixed hot and cold water flowing through a pointed tube

thermogenic nerves = nerves which control heat production

thermohyperesthesia, thermohyperaesthesia = excessive sensitivity to warmth and cold

thermohypesthesia, thermohypaesthesia = diminished sensitivity to warmth and cold

thermophone = a device which translates an alternating electric current into sound waves by means of the heating effect of the current when passed through a thin metal foil or wire [The sound output is low, but the intensity can be calculated from the constants of the device and the current used, an advantage favoring its employment in the calibration of sound-producing apparatus]

thermophor = a device for applying thermal, or temperature stimulation to the skin and registering the time of application, a rounded metal cap is applied to the skin, the contact making an electric circuit, water of the required temperature flows through this metal stimulus-cap

thermoreceptor = a receptor or sense organ which may be adequately activated by appropriate temperature stimuli

thermotropism, thermotaxis = a simple positive or negative response to external thermal stimulation [Cf **tropism**] (Accent **-mot-, -tax-.**) **thermotropic**[a], **-tactic**[a].

thesis = 1 a principle formally stated as basis for argumentation and proof, 2 the systematic discussion of a principle or specific problem

[(2) is applied to formal and elaborate discussions put forward by a candidate for academic honors Cf **theme**, which is less elaborate] **theses**^{pl}

thigmesthesia, see **touch**

thigmotropism, thigmotaxis = a simple orienting response, either positive or negative, to external contact (Accent **-mot-, -tax-**) **thigmotropic**^{a}, **-tactic**^{a}

thing = a loose term applied to unitary objects, generally exclusive of living organisms — Fr *chose*, Ger *Ding*

thinking = 1 a train of thought, 2 the process of arousing a single thought, 3 a determined course of ideas, symbolic in character, initiated by a problem or task, and leading to a conclusion [Cf **thought**] **think**^{v} — Fr *pensee*, Ger *Denken*

thinking aloud = a type of **thinking** in which the symbolic terms are audibly spoken words — Fr *pensee à haute voix*

thinking/stream of = a succession of ideational experiences uninterrupted by significant experiences of any other type [Syn **stream of thought**] — Fr *cours de la pensee*, Ger *Gedankenstrom*

third (*mus*), see **interval** and Table VII — Fr *tierce*, Ger *Terz*

third dimension = projection (or distance away) from the body of an organism, esp man [Syn **depth** Distg fr the two spatial dimensions occupied by the surface of the creature's body, or of the retina Used esp in investigations of visual perception, and responses to distant objects] **third-dimensional**^{a}

thirst = 1 desire for water, 2 (figuratively) strong desire for anything [The sensation of thirst includes the perception of **dryness** of the mouth] **thirsty**^{a} — Fr *soif*, Ger *Durst*

thobbing = thinking misdirected by emotion, prejudice, will to believe, or other non-rational states or processes of the mind [The verb **thob** is an artificial word devised by Henshaw Ward, composed of the initial sounds of the words *thinking, opinion, belief* Related to **Bacon's idols**, contr w **logical thinking**] **thob**^{v}, **thobbery**^{n}, **thobber**^{np}, **thobbic**^{a}, **thobistic(al)**^{a}.

thoracic nerves = the nerves which enter the spinal cord in the thoracic region, i e between the neck and the abdomen [There are 12 (double) pairs in man]

thorax = that portion of the body situate between the neck and the abdomen [Syn **chest**] **thoracic**^{a} (accent **-rass-**) — Ger *Brust*

thought = 1 a type of ideational experience which is symbolic, 2 (*beh*) subvocal movements, 3 a succession or train of symbolic processes, 4 (*hist*) cognitive experience in general, as distg fr **feeling** and **action**, 5 a single one of the several ideas in a course of thinking [Cf **thinking**] — Fr *pensee*, Ger *Gedanke*

thought/laws of = 1 the uniform principles according to which thinking proceeds, 2 (*hist*) the principles of rational or logical thinking [The two meanings are often confused, (2) is prefd] — Fr *l de cognition*, Ger *Denkgesetze*

thought-reading, see **mind-reading**

thought-transference, see **telepathy**

three-component theory = (*vis*) any doctrine to the effect that color vision can be explained on the basis of three elementary chromatic processes which combine in varying degrees of activity to yield the various colors, including grays [E g Young-Helmholtz theory]

threshold = 1 (*psychol*) a statistically determined point on the stimulus scale, at which occurs a transition in a series of sensations or judgments, 2 (*physiol*) the stimulus intensity required to initiate a nerve impulse or muscle contraction [Syn (1) **limen** (the two terms are used interchangeably) **thresholds** (1) are of three kinds (*a*) the *threshold of sensation* or *stimulus threshold*, designated as *RL* = that magnitude of stimulus at which a transition occurs from no sensation to sensation, (*b*) the *terminal stimulus* or *terminal threshold*, designated as *TR* = the greatest magnitude of stimulus that will produce sensation of a given type, (*c*) the difference threshold = the least amount of change of a given stimulus necessary to produce a noticeable change in sensation It is designated as the *DL*, or *j n d* (just noticeable difference) In some psychophysical procedures judgments are made upon stimuli both above and below a given standard stimulus, the stimulus distance from the standard to the point of transition from *equal* to *less* is called the *lower DL*, while the corresponding distance to the transition from *equal* to *greater* is called the *upper DL* The average of the two values is the *absolute DL* The ratio between the standard stimulus and the above values gives rise respectively to three types of *relative DL*'s **threshold** is sometimes confused with **sensitivity**, which is actually its inverse, i e as sensitivity increases, the threshold becomes lower] — Fr *seuil*, Ger *Schwelle*, (*a*) *Reizschwelle* (= *RL*), (*c*) *Unterschieds schwelle* (= *DL*)

threshold for bodily motion = the minimum rate of rotation, or the minimum rate of positive and negative acceleration in rotary and rectilinear motion, necessary to stimulate the end organs (labyrinthine and kinesthetic receptors, and receptors for organic sensibility) for the perception of bodily motion — Fr *seuil de mouvement corporel*

threshold for rotation = 1 the minimum rate of acceleration required to stimulate the labyrinthine end-organs, 2 the minimum rate of rotation necessary to elicit perception of bodily movement — Fr *seuil de rotation*

threshold of consciousness = the psychic level at which the non-conscious becomes conscious experience — Fr *seuil de conscience*, Ger *Bewusstseinsschwelle*

thrill^n = a sudden, intense emotional condition which may be either pleasant or unpleasant, as the thrill of joy or of horror, and in which there are often confused dermal sensations, as of tingling and temperature, these sensations changing rapidly in location and intensity — Fr *tressaillement*, Ger *Schauer*

thymus = a multilobate ductless gland of lymphoid structure, situate medially in the lower neck region, and largely in the thorax beneath the upper part of the sternum, it is composed of two lateral halves attached to a medial cord [It is developed from the 3d pair of pharyngeal pouches, reaches its greatest size about the time of puberty, and then slowly atrophies It has no established endocrine function] **thymic**^{a}

thyroid^a, **thyreoid**^{a} = pert to or located in a small area over the thyroid gland and just below the laryngeal region

thyroid gland, thyreoid gland, thyroidⁿ = an endocrine gland, which in the mammalia consists of two lobes situate on either side of the larynx and upper trachea, united in some species by an isthmus passing over the ventral aspect of the trachea [The mammalian thyroid normally elaborates an amount of internal secretion which maintains the basal metabolic rate, is necessary for normal growth, and has other less well-defined influences upon the bodily economy] **thyroid**[a], **thyreoid**[a]. — Ger *Schilddruse*

thyroid cartilage = the large cartilage of the larynx which forms the prominence known as the pomum adami, or Adam's apple

tibia = the inner and larger of the two bones of the lower leg **tibial**[a] (accent tib-). — Ger *Schienbein*

tic = 1 a psychoneurosis characterized by quick, sudden spasms similar in form to voluntary movements, 2 spasmodic twitching of the face or a spasmodic movement of any sort, repeated at frequent intervals, which bears no significant relation to the situation — Ger *krampfhaftes Zucken*

tickle = 1 a sensory experience involving a complication of contact sensations and a strong feeling tone, 2 an emotional experience involving strong feeling tone and marked by convulsive movements of escape and laughter [Two sorts of **tickle** (1) are distinguished **light tickle,** aroused by light pressure in certain regions, e g lips, **deep tickle,** aroused by heavier pressure in other regions, e g ribs] **ticklish**[a] = susceptible to tickle stimulation — Fr *chatouillement,* Ger *Kitzel*

tied relations = relations cognized, yet fused in the object known so that they are not explicitly observed [Contr w **free relations**]

tilting board, tilt-board = an apparatus used for vestibular stimulation, it consists essentially of a flat board about 6 ft by 2 ft which swings freely about a horizontal axis, the subject lies upon the board [Cf **rotation table**] — Fr *planche de rotation*

timbre = the specific qualitative aspect of a complex sound, which depends upon the number and relative intensities of partial tones present [Musical instruments sounding the same fundamental tone are distinguished in terms of their **timbre,** i e by differences in overtones and incidental noises (e g scraping of the bow in the violin) Syn **clang-color, clang-tint, clang quality, tone-color, tone-tint, tone-** (or **tonal**) **character**] (Pron **timber** or **tambr**.) — Ger *Klangfarbe*

time = 1 (*psychol*) the measurable aspect of duration, 2 the objective basis of the characteristic or attribute of duration, 3 that which distinguishes events with reference to their occurring now, before, or after, and their beginning and end, 4 (*mus*) grouping of successive rhythmic beats or pulses into equal measures [**time** (1, 2) is measured by any device in which a pointer or other part moves uniformly in reference to a scale (chronoscope, time clock), or a recorder registers on a uniformly moving chart (chronograph)] **temporal**[a] — Fr *temps*, Ger *Zeit*

time error = the error produced in psychophysical experimentation due to presenting two stimuli successively [According to Fechner's convention, the **time error** (designated by p) is *positive* when it operates to make the first of two equal stimuli appear greater than the second, and *negative* when the second appears greater than the first] — Fr *erreur de temps*, Ger *Zeitfehler*

time-limit method = a method of arranging test material and instructions such that each testee shall work for the same length of time, and efficiency be measured by the amount (or amount and quality) of work done in this constant time [Contr w **work-limit method** Group tests commonly use the **time-limit** method]

time order = the sequence in which stimuli are presented in psychophysical experiment [**first time order** = standard (or normal) stimulus followed by the comparison stimulus, **second time order** = comparison stimulus followed by the standard stimulus] — Ger *Zeitlage*

time perception = 1 apprehension of the amount of duration, rate of change, placement in time, order of occurrence, beginning and end, etc of experiences, 2 (*mus*) apprehension of rhythm in a melody [Syn (1) **time apprehension** (prefd)] — Fr *perception du temps*, Ger *Zeitanschauung, Zeitwahrnehmung*

time perspective, see **perspective/temporal**

time/psychological = the subjective impression of the temporal duration of an experience or of the duration elapsing between experiences [Contr w **physiological time**]

time sense = a loose term, denoting apprehension of duration, change, order of occurrence, and in general of the duration aspect or attribute of experience [Generally applied to *capacity* of apprehending, while **time perception** refers to specific occurrences] — Fr *sens du temps*, Ger *Zeitsinn*

time-sense apparatus = an instrument for determining the accuracy of time estimation, it consists essentially of a uniformly rotating metal arm, which during rotation comes into contact with two (or more) sets of terminals or contacts, producing similar sounds, or other forms of stimulation, separated by a time interval which depends on the rate of rotation and the distance between the contacts [In some forms a swinging pendulum is used to make the contacts]

timidity = an emotional attitude marked by hesitation, and by a tendency to experience fear in situations which do not justify the fear attitude [Distg fr **shyness,** a special form of timidity confined to social situations] **timid**[a] — Ger *Furchtsamkeit, Schuchternheit*

tingling = an experience characterized by short, intermittent, tactual sensations which are localized at some point or region of the periphery **tingle**[v] — Fr *picotement*, Ger *Kribbeln, Prickeln, Stechen*

tinnitus = an auditory disorder characterized by a ringing, buzzing, or rushing sound in the ear in the absence of any external stimulus (Accent -nigh-) — Fr *tintement*, Ger *Ohrenklingen*

tint = 1 any color lighter (i e of higher brilliance) than median gray, 2 sometimes used as syn for degree of **saturation** [Contr (1) w **shade** (1)] — Fr (1) *teinte claire*, Ger (1) *Tinte*, (2) *Schattierung*

tissue = any structure in organisms which is composed of similar cells or other elements joined together and performing a common function — Ger *Gewebe*

tonal, see **tone**, (1, 2)

tonal bell = a bell-shaped wire model designed to illustrate the interrelations of the qualitative tonal attributes, viz pitch-brightness, volume, tonality (Ruckmick) [Cf **tonal pencil**] — Fr *cloche des tons*

tonal gap = a region of the tonal continuum within which, for a given individual, auditory sensitivity is lacking or is greatly reduced, bounded on either side by regions in which sensitivity is wholly or practically normal [Syn **tonal lacuna** Contr w **tonal island** Cf **deafness, audiogram**] — Ger *Tonlücke*

tonal island = a region of the tonal continuum within which, for a given individual, auditory sensitivity is normal, bounded on either side by regions of complete or relatively great insensitivity [Contr w **tonal gap** Cf **audiogram**] — Ger *Toninsel*

tonal pencil = a pencil-shaped figure designed to illustrate the relation between pitch and volume within the tonal scale (Titchener) [Cf **tonal bell.**] — Fr *crayon des tons*

tonal standard = an instrument giving a tone whose pitch is fixed and definitely known [The most common standards are calibrated tuning forks Other useful standards are electrical tone-producing instruments, such as audio-oscillators Cf **pitch/standard**] — Fr *étalon tonal*

tonality = a characteristic of musical tones, arising from their relationships with other tones, esp with the key note or tonic [Since any tone and its octave are regarded as equivalent, or of the same **tonality**, this characteristic of sounds is a periodic function of frequency repeating itself in every octave Sometimes regarded as an attribute of all sounds, whether musical or not Syn **octave quality**] — Ger *Toncharakter*

tone = 1 auditory sensation aroused by the periodic vibration of an elastic medium, 2 an interval between two musical sounds (e g whole tone, semitone), 3 visual quality, w esp reference to minor differences of hue, saturation, and brilliance, 4 (*photog*) the relative brilliance (brightness) of any given portion of a scene or picture, 5 general level of emotional reactivity, mood, or feeling, e g pleasant tone, depressed tone, 6 state of muscular reactivity, or general bodily condition, e g the tone (or tonicity) of the biceps [Syn (6) **tonus** (prefd)] **tonal**[a] (1), **tonic**[a] (2, 6) — Fr (1) *son*, (2) *ton*, Ger *Ton*

tone/beat, tone/combination, etc, see **beat tone, combination tone**, etc — Fr *ton de battement, ton résultant*

tone (or tonal) character, see **timbre**

tone-color, see **timbre** — Fr *coloration tonale*, Ger *Tonfarbe*

tone/compound = 1 (*psychol*) any tonal experience which can be analyzed into component tones by direct observation or with the aid of instruments, 2 (*phys*) a complex periodic sound-wave which can be analyzed into component waves of the sinusoidal type [Contr w **simple** (or pure) **tone**] — Fr *son composé*, Ger *Klang*

tone-deafness = inability on the part of an individual to discriminate differences in pitch, and hence to distinguish one tune from another [Syn **asonia**] — Fr *surdité musicale*, Ger *Tontaubheit*

tone/feeling, see **feeling tone, hedonic tone.**

tone/muscle, see **muscle tonus**

tone (or **tonal**) **sensation** = an experience produced by stimulation of the ear by relatively simple periodic sound-waves [As the stimulus approaches sine-wave form, the experience increases in simplicity and becomes (theoretically) a **pure tone sensation** Contr w **noise** (**noise sensation**) and **vocality** Cf **sound** (2)] — Ger *Tonempfindung*

tone/simple (or **pure**) = 1 (*psychol*) any tonal experience which cannot be analyzed by direct observation or with the aid of instruments, 2 (*phys*) periodic sound-waves of the sinusoidal type, 3 (*psychophys*) the experience correlated with such waves [Contr w **compound tone**]

tone/subjective = a perceived tone whose primary basis is in the auditory mechanism of an observer and not in the sound-waves outside the ear [Cf **tinnitus**]

tone-tint, see **timbre**

tone variator = an adjustable resonator excited by blowing across the mouth, used as a source of moderately pure tone [The desired frequency is obtained by raising or lowering a piston within the resonator by means of a graduated cam The variations of pitch are continuous within the limits of each particular variator, which is about two octaves There are several models, covering the ordinary musical range Cf **Stern variator**]

tongue = 1 (*anat*) a muscular organ situate on the floor of the mouth, which assists in deglutition and in articulate speech, the mucous lining contains papillae, in some of which are embedded the taste-buds, the receptors for taste, 2 a loose term denoting a differentiated language system (e g English, Latin, etc) **lingual**[a] — Fr *langue*, Ger *Zunge*

tonic[a] = pert to **tonus**, i e the postural contraction of muscle

tonic[n] = 1 (*mus*) the first tone or keynote of any given scale, or a chord having this tone for its root, 2 a medicine which promotes nutrition and gives tone to the system [Syn (2) **invigorative**] — Ger (1) *Tonika*

tonic immobility = the condition of total quiescence set up in animals of some species by stimuli naturally or artificially presented [Syn **animal hypnosis, death feigning (or feint).** It seems to be of an all-or-none character and to have camouflage value]

tonic labyrinth reflexes = extensor tonus of limbs when an animal is placed on its back, elicited by a stimulation of the vestibular organ [They are mediated by the vestibular nerve and nuclei, and by the vestibulospinal tracts]

tonic labyrinth-eye reflexes = reflex eye-movements whereby the same object is instantly fixated in spite of movements of the animal as a whole in any plane except the horizontal [The external and internal recti muscles take no part in these reflexes They are mediated by the vestibular nerve, nuclei, vestibulo mesencephalic tracts, and nerves of eye movement] — Fr *réflexes toniques oculaires d'origine labyrinthique*

tonic neck reflexes = modifications of the extensor tonus of the limbs when the head is moved into various relations with the trunk [They originate in the proprioceptors in the neck, and are mediated by the VIII cranial to

4th cervical nerves] — Fr *réflexes toniques du cou*

tonic neck-eye reflexes = compensatory eye movements in response to changes of position of the head with reference to any plane, including the horizontal [They are mediated by the VIII cranial to 4th cervical and oculomotor nerves] — Fr *réflexes oculaires toniques d'origine posturale céphalique*

tonic reflex = 1 abnormal prolongation of tension after a reflex, 2 any reflex which deals with muscular tonicity [Cf **static reflex**]

tonicity = the degree of muscle tonus or postural contraction [Syn **muscle tonus**]

tonograph = a form of **sphygmograph** used for measurement of blood pressure and the radial pulse (Jacquet)

tonometer = an instrument for producing tones of known frequency or for determining the approximate pitch of a tone [Appunn's **tonometer** consists of a wind-chest with many reeds tuned through two or three octaves by small steps, e g, 129 reeds ranging from 512 to 1024 cycles by steps of 4 cycles] — Ger *Tonmesser*

tonoscope = an instrument for the visual analysis of complex sounds by the principle of the **stroboscope** [A moving drum contains many series of perforations which are intermittently lighted from within by a flame, a neon tube, etc which is regulated by the sound to be analyzed, the rows of perforations, which appear stationary, indicate the frequency components of the sound Cf **strobophotograph**]

tonsil = (*anat*) a small, almond-shaped mass, composed mainly of lymphoid tissue, situate between the fauces **tonsillar**[a] (accent ton-) — Fr *amygdale*, Ger *Mandel*

tonus, tone/muscle, see **muscle tonus**

tonus/plastic = a tonic state of skeletal muscles, such that a limb whose muscles are so innervated will remain fixed in the position in which a manipulator places it [Sometimes called "lead pipe plasticity"]

topographic = (*psychoan*) characterizing mental processes interpreted from the standpoint of their localization in the mental apparatus

topography = the mapping out of localities [See Tables XVI, XVII and XVIII]

topography/mental = (*psychoan*) the schema of the mind used for purposes of description and interpretation [According to this view the mental apparatus is divided into the id, the **ego**, and the **superego** Syn **topography of the mind, topographical psychology**]

toric lens = (one of) a system of spectacle lenses having a highly concave surface toward the eye of the wearer, thereby affording a larger field of vision than otherwise [In order to get the effect of a cylindrical lens, the anterior face of the lens is ground to the form of a **torus** having unequal circular curvatures in two perpendicular meridians For a purely spherical effect such a lens, although usually so called, is not properly a **toric lens**, but a **meniscus**] — Fr *lentille en tore*

torpor = temporary lack of response to stimuli of normal intensity [Syn **torpidity** Distg fr **sleep**] **torpid**[a] — Ger *Betaubung*

torsion = the twisting of one end of a cord, flexible metal rod, or pair of cords or rods about the axis, the other end remaining fixed, so that when the twisted end is released it tends to rotate in the contrary direction **torsional**[a]

torsional movement, torsion, torsional rotation = rotation of the eyeballs about their sagittal or antero-posterior axes [It occurs as a component in the normal coordinated movements of the eyeballs, as a deviation from Listing's law Syn **wheel-movement, rolling** Cf **rotation**] — Ger *Raddrehung, Rollung*

total color blindness, see **achromatism.**

totem = a species of animal or plant, or some organic object, held in peculiar veneration by members of a given sib, community, or sex, or by an individual or member, as symbolic of their group, or regarded as the protective deity of their sib, or sex, or of those having the same individual totem or guardian spirit **totemic**[a].

totemism = the system of totems and the customs attached thereto, considered as a social or religious institution

touch = 1 contact of an individual with an object or body of any sort, by movement of his members, 2 contact of an object with some portion of the body surface, 3 the experience aroused by such contact [Syn (1) **palpation**, (2) **touch sensation** (prefd), (3) **thigmesthesia, feeling** (ambig)] **tactual**[a], **tactile**[a] — Fr *tact, toucher, sensation de contact*, Ger *Beruhrung*

touch/field of = 1 the totality of tactual stimulations which occur at any given moment, 2 a generic term embracing all aspects of tactual sensibility

touch pyramid = a geometrical representation of the relations between the principal pressure-pain sensations (Titchener) — Fr *pyramide du tact*

touch sensation = 1 a sensation aroused by stimulation of certain receptors in the skin, through contact with some object, regardless of the temperature of the stimulus or body surface, i e either a pressure or a contact sensation, 2 (more narrowly) **contact sensation**, as distg fr **pressure** — Fr *sensation tactile*, Ger *Tastempfindung* (distg fr *Druckempfindung* = pressure)

touch spot = a point on the skin which is peculiarly sensitive to faint punctiform pressure stimuli, i e a spot which has a much lower limen for contact stimuli than the adjacent regions [The points in the skin directly over the roots of the hairs are usually touch spots] — Fr. *point de pression, p de tact*, Ger *Tastpunkt*

toxic = pert to poison, poisons, or poisoning — Ger *giftig*

toxic psychosis = mental disorder due to poisons including also the absorption of bacterial products or toxins formed at a local source of infection

toxin = 1 any poisonous albumen produced by bacterial action, 2 (*pop*) a poisonous substance [**toxins** (1) are distinguished by their capacity to excite the production of **antitoxins**, are soluble, thermolabile secretory products of bacteria Toxin-like substances are present in snake venom and in some vegetable tissues] **toxinic**[a].

toxophobia = morbid fear of being poisoned

TR = abbrev for terminal stimulus, the maximal value of a stimulus scale or the upper absolute threshold [Cf **R, threshold**]

trace = (*neurol*) an altered physical state of conductive tissue, postulated as the product of

learning and as the physical basis of memory [Syn **engram, bond**] — Fr *empreinte*, Ger *Spur*

trachea = the cartilaginous and membranous tube which descends from the larynx to the bronchi [Syn **windpipe**] (3 syll, accent **trake-**) **tracheal**ᵃ — Ger *Luftröhre*

trachoma = a contagious disease, primarily of the conjunctiva of the eyelids, characterized by the formation of small elevations or granules, and later by the formation of scar-tissue which may lead to deformities of the lids [It may also affect the eyeball and lead to permanent impairment of vision] (Accent **-kome-**)

trachyphonia = a form of **dysphonia** characterized by hoarseness or roughness of the voice

tract = a collection or bundle of nerve-fibers having the same origin, termination, or function [E g spinothalamic tract, having same origin and termination, but possibly a number of functions (sensory)] — Fr *faisceau, voie*, Ger *Leitungsbahn, Nervenstrang*

tractable, see **docility**

traction sensation = a cutaneous sensation aroused by pulling the skin away from the member [Syn **pull sensation**]

trade test = a test of proficiency in a trade or other skilled occupation, designed to measure an applicant's information about the trade, or his skill in performance of standard tasks [The **trade tests** developed in the U S Army for measuring proficiency in 84 occupations such as welder, truck-driver, typist, are of three types oral, picture, and performance Distg fr **aptitude (or capacity) test**] — Fr *test commercial*

tradition = any body of social customs or history handed down orally or by direct training of individuals, as contr w transmission through graphic records [Cf **custom**] **traditional**ᵃ

tragedy = (*esth*) a serious drama ending with a catastrophe (usually the death of the hero or heroine) brought about by inevitable conflict of the hero or heroine with the environment, to which he or she is not adjusted — Ger *Trauerspiel*

tragic = 1 pert to tragedy in art, 2 arousing emotional reactions of horror similar to those aroused by tragedy in the dramatic art, 3 (*pop*) fatal or calamitous

train = to guide or direct the learning process in a human being, or in an animal, so as to induce certain habitual responses, complex habits, or attitudes which are desired by the trainer — Fr *guider, diriger*, Ger *erziehen, dressieren*

training = 1 a systematic series of activities designed to bring about the development of some specific habit, ability, or attitude in a human being or animal, 2 the care and education of human offspring during the years of immaturity, e g child training **trained**ᵃ, **train**ᵛ — Fr *entraînement, dressage*, Ger *Dressur, Erziehung*

training analysis = (*psychoan*) analysis, by a trained analyst, of an individual who plans to do therapeutic analyses

train of thought (or of ideas) = a sequence or succession of associated ideational processes or functions — Ger *Gedankengang*

trait = 1 any biological or psychological character or inherited mark, 2 a distinctive mode of behavior, of a more or less permanent nature, arising from the individual's native endowments as modified by his experience (Amer pron **trait**, Brit, **tray**) — Ger (2) *Charakterzug*

trance = a condition of dissociated consciousness characterized by suspension of voluntary movements and by the presence of automatic activity and stereotypy of thought [Applied loosely to certain conditions of hysteria, hypnosis, ecstasy, and the state of mediumship] — Fr *extase*, "*transe*," *sommeil*, Ger *Verzückung, Ekstase*

transcendental, see **metempirical**

transfer of training = the improvement of a mental or motor function without direct training, through the practice of some kindred function [Applied to the formation of motor co-ordinations, to the improvement of sensory discrimination and perception, to the formation of attitudes, and to thinking or reasoning, **transfer of training** is sometimes attributed to the existence of identical elements in the two functions or to the process of generalization Cf **cross-education**] — Fr *transfert d'entraînement*

transference = (*psychoan*) 1 the development of an emotional attitude on the part of a patient toward the analyst, in the form of either an affectionate reaction (positive) or of a hostile reaction (negative), the attitude in either case being derived from earlier relations of the patient with one or both of his parents and not from the actual analytic situation, 2 displacement of affect, either positive or negative — Ger *Übertragung*

transformation = 1 (*logic*) the operation by which one formula or proposition is substituted for another, or by which the several items in a complex system are exchanged for the equivalent items of another system, 2 (*math*) the substitution of a second variable y for a first variable x, of which it is a function, 3 (*vis*) a process, believed to be subjective or cerebral, owing to which visual objects are represented in conscious experience in sense-qualities that are relatively independent of the conditions of illumination (or of the absolute values of the corresponding retinal stimuli), and that correspond to the reflection characteristics of the objects, 4 (*phys*) change of an entity or process from one form into another, e g of mechanical energy into thermal energy [The **transformation** (2) is called a **linear transformation** if y is a linear function of x, i e if $y = a + bx$ Cf **transformation theory**] **transform**ᵛ

transformation theory, transformism = the theory that one biological species becomes changed in the course of time into another radically different species [Syn **evolution, evolutionism** Contr w **special creation theory**]

transilient variation = (*hist*) syn for **mutation**

transitive states, see **substantive states**

transmission = 1 (*biol*) the passing on of biological characters from parent to child, 2 the passing on of any effect from one individual or generation to another, whether by inheritance or by other means [Cf **social transmission**] **transmit**ᵛ — Ger *Übertragung*

transmission/neural, see **neural conduction**

transmission unit, TU = (*aud*) a logarithmic unit of sound intensity [The units in common use are the **decibel** and the **napier** (or **neper**)]

transparent plane color = a two-dimensional color which presents a clear, unclouded *mode of appearance* and permits objects to be seen beyond

and behind it in visual space, e g colors seen in clear glass panes — Ger *durchsichtige Flachenfarbe*

transposition = 1 the interchange of position as between two units in any complex system, 2 (*mus*) the transference of an entire musical composition from one key to another, 3 any change of parts which does not involve a change of structure [E g (1) interchange of terms in a proposition] **transpose**^{v} — Ger (1) *Versetzung*, (2) *Transposition*

transverse = lying or moving across, athwart, or crosswise [**transverse vibrations** are movements perpendicular to the direction of transmission, e g light-waves **transverse axis** = an axis lying athwart the principal axis of reference (usually the longitudinal or major axis) Contr w **longitudinal**] — Ger *querlaufend*

transverse plane = (*anat*) any plane in the body at right angles to the cephalocaudal axis [In man, syn **horizontal plane**]

transvestism, transvestition = the propensity of certain individuals to dress in the mode of clothing prescribed for the opposite sex **transvestite**^{np}, **transvestitism**^{n}

trapezoid body = (*neurol*) a strand of transverse fibers in the lower part of the pons, which arise from the cells of the cochlear nucleus [Syn **trapezium**] — Fr *corps trapezoide*

Traube-Hering waves = relatively long-period changes in the pulse curve alleged to be related to psychological changes

trauma = any wound or injury, esp a structural injury [Syn **traumatism**] **traumata**^{pl}, **traumatic**^{a}

trauma/psychic = an emotional shock which may cause a lasting disturbance to mental functions

traumatic neurosis = a psychoneurosis (e g hysteria, anxiety states) which is precipitated by the effects of a **trauma** and in which the symptoms are attached to the original traumatic experience — Ger *Unfallsneurose*

treatment = the systematic working over by an investigator or technician of the data at hand [Applied also to operation by a physician upon a given disease, etc] **treat**^{v}. — Ger *Behandlung*

tree structure (*neurol*), see **dendrite**

trembling = a moderate or slight, involuntary, and phasic contraction of some group of muscles, continued indefinitely [Cf **convulsion**] — Fr *tremblement*, Ger *Zittern*

tremograph, see **steadiness apparatus**

tremolo = periodic variations in the loudness or pitch (or both) of a tone which is produced on a musical instrument [On the violin, e g, the effect is gained by altering regularly the pressure of the finger against a string, in wind instruments by varying the air supply or pressure of the instrument against the lips Syn **vibrato**, prefd when applied to corresponding changes produced by the singing voice] (Accent **trem-**)

tremor = a continuous muscular spasm of limited range, which is associated with emotion and fatigue or with pathological states such as cerebellar lesions (*intention tremor*), or lesions of the basal ganglia of the brain (*resting tremor*) [E g Parkinsonism Cf **spasm**] — Fr *tremblement*, Ger *Zittern*

trend = 1 the line or direction of progression of a series of events, forms, types, etc, 2 inclination in a specific direction or towards a particular mode of behavior, 3 delusional or autistic ideas [As describing behavior, the term is metaphorical and seldom used with great precision, though it has been put forward as a synonym for normal homologues of the Freudian complex] — Fr (1, 2) *tendance*, Ger *Tendenz*, *Richtung*

trepan, see **trephine**

trephine^n = a hollow cylindrical or conical cutter used in brain surgery to remove a circular disk from the skull [Syn **trepan**, an obsolete form of this instrument] **trephine**^{v}, **trepan**^{v} = to operate with the trephine

Treppe, see **staircase phenomenon**

triad = a chord composed of three tones, e g c-e-g — Fr *accord a trois sons, triade*, Ger *Dreiklang*

trial and error method = the name applied to a mode of learning, in which the learner tries various movements in his repertory, apparently in a somewhat random manner and without explicit recognition of the connection between the movement and the desired result, tentative movements which succeed (i e which lead to habit formation) are more frequently repeated in subsequent trials, and those which fail gradually disappear [The movements, though termed *random*, are generally characteristic of the behavior of the animal or human individual in somewhat analogous situations The term was first used by Lloyd Morgan in 1894 The procedure was (more properly) named by Thorndike the method of trial, error, and accidental success] — Fr *m des essais et erreurs*

tribal self = 1 the psychical factors which are assumed to be involved in the organization of a social group or tribe, in so far as that group is analogous to an organism or personality, 2 the consciousness which an individual has of himself as a member of a tribe, partaking of the views, sentiments, etc common to all members, or the behavior which reveals an individual to others as partaking of such tribal consciousness or characteristics — Fr *conscience sociale, moi tribal*

tribe = a partly organized social group of individuals, which consists of loosely connected communities or sibs, usually speaking a common language, with a common territory and name, and having, in many cases, a common military organization, but usually lacking in the cultural and judicial systems which characterize a **state** **tribal**^{a} — Fr *tribu*, Ger *Volkstamm*

triceps reflex = contraction of the triceps brachii, following a sharp tap on the tendon near the olecranon while the forearm is supported at right angles to the arm [Mediated by 6th to 7th cervical segments Syn **elbow r**, **elbow jerk**]

trichromatic theory = a color theory based upon the facts of color mixture, namely that all hues may be derived from the mixture of two or more of three primaries, usually given as red, green, and violet

trichromatism = normal color-vision, so named under the influence of the Young-Helmholtz three-color theory [Distg fr **dichromatism** = ability to distinguish only two primary hues and their variants, and fr **achromatism**, the ability

to distinguish only differences of grays] **trichromatic**[a], **trichromate**[np]

trick = (*indiv psychol*) a psychic mechanism by which an individual conceals from himself a knowledge of his weaknesses

tridimensional theory of feeling = the theory that there are three attributes or dimensions of affection (*a*) pleasantness-unpleasantness, (*b*) excitement-quiescence, and (*c*) tension-relaxation (Wundt)

trigeminal nerve = the V cranial nerve, which has three main branches (*a*) afferent from face and scalp, (*b*) efferent to the lacrimal gland, and (*c*) afferent from mucosa of nose and tongue — Fr *nerf trijumeau*

trigger action = the case in which one train of energy serves to release another train of (latent) energy, e g application of a spark to gunpowder, where the energy of the spark is not transmitted beyond the point where the gunpowder is ignited [A term applied to the mode of excitation of receptors, nerves, and muscles] — Fr *déclanchement*

triploid = having three sets of chromosomes [Cf **diploid, tetraploid**]

trireceptor theory = a type of theory, such as that of Young and Helmholtz, which assumes that color vision depends upon the operation of three kinds of receptors in the retina, each of these, with its nerve connections, being assumed to mediate a fixed fundamental or primary hue-quality, all gradations of color being dependent upon the proportions of activity of the three [Cf **Young-Helmholtz theory**]

trisomic = (*biol*) possessing an extra chromosome, so that in an ordinary diploid organism there are three chromosomes in place of one of the usual pairs

tritanopia = a rare type of partial color-blindness, or dichromatic vision, in which the spectrum is apparently shortened at the violet end (von Kries) [The term signifies loss of the *third* color process of the three-component theory Syn **blue (or violet) blindness** Probably identical with **blue-yellow blindness** Usually acquired, but sometimes apparently congenital Distg fr **protanopia** and **deuteranopia**] **tritanopic**[a], **tritanope**[np]

tritone = a musical interval which is equal, or nearly equal, to half an octave [The major diatonic tritone, or augmented fourth, has a frequency ratio of 32:45, and is slightly less than half an octave The equal tritone has a ratio of $1:2^{1/2}$ (or 99:140) and is exactly half an octave The Pythagorean tritone, ratio 512:729, is somewhat larger than half an octave]

trochanteric = pert to or located in a small region on the outer and uppermost part of the human thigh (Accent **-ter-**)

trochlear nerve = the IV cranial nerve, which controls the superior oblique muscle of the eyeball [Syn **patheticus**] — Fr *nerf pathétique*

tromophonia = a form of **dysphonia** characterized by tremulous voice

trophic = pert to nutrition and the nutritive functions

trophic nerve = a nerve which aids or regulates the nutrition of a tissue [Evidence opposes the view that there are specialized **trophic nerves** having no other function than control of the metabolism of tissue, and indicates that all nerves exercise a trophic influence on the tissue which they supply]

trophism = direct nutritive or trophic influence, more specifically, the control of the nutritive functions by the nervous system

trophoplasm, see **idioplasm**

tropism = response in a cell, an organ, or an organism, which results in the assumption of a definite axial position in reference to the direction of an external stimulating agent [Syn **orientation**, **taxis**, applied to motile types of organisms The principal tropisms are **chemotropism, thermotropism, thigmotropism (stereotropism), phototropism (heliotropism), galvanotropism, geotropism, rheotropism**, others investigated are **anemotropism, hydrotropism, magnetotropism, chromotropism, barotropism, chromatotropism**, all accented **-ot-**] **tropistic**[a] (**-tropic**[a], the only form in compounds)

tropostereoscope = an instrument employed to demonstrate the influence of double images in the perception of depth, it consists of two metal tubes, hinged together at one end, so that the other ends may be adjusted to the distance between the eyes, circular bits of colored glass are fitted into the ends away from the eye, on the glass in each tube is a large circle concentric with the tube, and on each a smaller circle symmetrically placed at one side of the center in each tube [The tubes may be turned in opposite directions, so that while one looks through the tubes, the large circles are constantly superimposed, while the small circles may fall upon the vertical meridian in each eye, or they may be made to produce on the retina either crossed or uncrossed double images As one looks through the tube with the eyes converged upon a distant object, the small circles fuse into one, which seems to move back and forth through the large circle]

trough, see **cycle**

true = corresponding to reality, conforming to fact, coherent, or consistent with logical relations [Syn **correct** Contr w **false** = not so conforming, or w **erroneous**, which emphasizes the role of the individual in making the judgment] **truth**[n] — Fr *vrai*, Ger *wahr*

true-false test = a form of mental test, employed most often in checking the testee's possession of general information, wherein a series of statements is made (or questions asked), each one of which is to be designated as right or wrong (or answered "yes" or "no") [Since by chance alone one-half of the responses would tend to be correct, the test is often scored Rights minus Wrongs]

true resistance, see **ohmic resistance**.

true score = the measure which would be obtained by taking the average of an indefinitely large number of measurements of a given individual on similar tests taken under similar conditions [A **true score** is not possible of determination experimentally] — Fr *notation valable*

true vocal cords, see **vocal cords**

truism = a statement or proposition whose **truth** is so obvious to both speaker and audience that it need not be formulated or need not be supported by argument or fact — Fr *vérité évidente, truisme*, Ger *Gemeinplatz*

truth = the correspondence of a judgment or thought with an actual occurrence, or with actual processes of nature, or (in the case of mathematical generalization) with its own implica-

tions [Pragmatists explain correspondence with actual occurrences as meaning that the judgment guides one safely among facts, i e it works Others explain it as coherence with other judgments which in their totality symbolize reality itself Contr w **falsity** and w **error**, the former emphasizes objective disparity, the latter an incoherent mental procedure] **true**^{a}, **the true**^{n} (abstract and general) — Fr *vérité*, Ger *Wahrheit*

TU, see **transmission unit**

tuber cinereum = a gray area on the ventral aspect of the forebrain and caudad to the optic tracts, from which the infundibulum extends to the pituitary body — Fr *tubercule cendré*

tumid = enlarged, swollen **tumescence**^{n}, **tumidity**^{n}, **tumescent**^{a} — Fr *enflé*, Ger *geschwollen*

tune^{n} = a series of musical sounds which form a rhythmical, melodic pattern — Fr *air*, Ger *Weise*, *Melodie*

tune^{v} = to adjust the natural frequency of a sounding body or resonator to agree with some standard — Fr *accorder*, Ger *stimmen*

tuned resonance, see **resonance**

tuning = (*cutan*) the definite maximum of sensory intensity that can be aroused in each specific pressure, warm, and cold spot, and that cannot be increased by any excessive degree of stimulation [The tuning of each spot is believed to be independent of every other First reported by Goldscheider]

tuning fork = a two-pronged (two-tined) instrument of highly tempered metal, adjusted so as to generate sound-waves of constant frequency [Abbrev to **fork** Used in determining pitch standards In a variable **tuning fork** the pitch may be altered within a limited range by sliding small weights along the tines] — Ger *Stimmgabel*

tunnel of Corti = a triangular space enclosed within the **arch of Corti** of the internal ear

turnover/labor = the proportion of shifts and replacements necessary for the maintenance of the work force, i e the ratio of the number of labor changes to the number of full-year workers [Often computed as the ratio of the number of accessions to the average number on the payroll] — Fr *taux de fluctuation de la main d'oeuvre*

twelfth = in the musical scale, a tone whose vibration rate is 3 times that of the tonic or key tone

twilight sleep = a condition of dim awareness, which is usually induced by drugs [Generally restricted to the stupor induced by a combination of morphine and scopolamine]

twilight states/hysterical = mental attacks in hysteria in which the patients imagine themselves in an entirely different environment or are the subjects of remarkable adventures [In this condition they often repeat scenes they have actually experienced in the past, fulfill wishes which have remained unfulfilled, or exclude unpleasant episodes they have experienced in the past] — Fr *états crépusculaires hystériques*, Ger *Dämmerzustände*

twilight vision, see **scotopic vision** — Fr *vision crépusculaire*, Ger *Dämmerungssehen*

twin = a member of a pair of offspring produced at one birth [In man, classified as (1) **fraternal** (or **dizygotic**) **twins**, which may be of the same or of different sexes and are usually no more alike than other siblings of the same family, and (2) **identical** (or **monozygotic** or **monochorionic**) **twins** = of the same sex and usually very similar in their characteristics, the latter are believed to arise from the same fertilized egg and hence to have the same heredity] — Fr *jumeau*^{m}, *jumelle*^{f}, (1) *j dizygote*, (2) *j vrai*, *j monozygote*, Ger *Zwilling*

twinge = a sharp, sudden pain of short duration — Fr *douleur aigue*, *élancement*, Ger *Zwicken*

twitching = a sudden, local, convulsive movement, or a series of such movements **twitch**,$^{v, n}$ — Fr *contraction spasmodique*, *spasme musculaire*, Ger *Zuckung*

two-aspect theory, see **double-aspect theory**

two-factor theory of intelligence = the doctrine, expounded by Spearman, that all modes of cognitive activity have in common one fundamental factor or group of factors (g), while the specific elements (s) are different in the same individual for different abilities [Cf **g factor**, **s factor**, contr w **multimodal theory** (Thorndike)]

two-point discrimination = determination of the distance which must separate two points in order that they may be perceived as two by skin or eye [This distance is an accepted measure of the delicacy of spatial perception in the cutaneous senses]

tympanic canal, see **scala tympani**.

tympanic cavity = an irregular space within the temporal bone, filled with air, which communicates with the pharynx by means of the Eustachian tube [It is bounded laterally by the tympanic membrane, and contains the auditory ossicles, a chain of bones which serve to convey to the internal ear the vibrations transmitted by the tympanic membrane Syn **middle ear cavity** Cf **ear**] — Fr *cavité (creux) tympanique*, Ger *Trommelhöhle*, *Paukenhöhle*

tympanic membrane = a thin, fibrous, semi transparent membrane, slightly conical in shape, which separates the inner termination of the external auditory meatus from the tympanic cavity within the ear [It vibrates in response to sound, and communicates the vibrations to the first of the auditory ossicles (the malleus), one arm of which is attached near its center Syn **ear-drum membrane** (incorrectly called **ear-drum**)] — Ger *Trommelfell*, *Paukenfell*

tympanum = the middle ear [Often applied (ambig) to the tympanic or ear-drum membrane Cf **ear/middle**] (Accent tym-) **tympanic**^{a} — Ger *Pauken*, *Trommel*

type = 1 a set or pattern of characteristics which more or less closely resemble those possessed by certain individual beings, objects, etc , 2 a class of individuals who have a set or pattern of distinguishing characteristics in common, 3 a specimen selected from (2) as representative of the class as a whole, 4 (*anal psychol*) a group defined in terms of its fundamental way of directing its psychic energy [The two major types (4) are introvert and extravert, each being subdivided according to the specific mental acts through which the psychic energy expresses itself Cf **type/mental**] **typical**^{a} = embodying or representing a given type, **type**^{a} — Ger *Typus*

type/mental = a distinctive mode of behavior, which differentiates one group of individuals from another in some important respect [There are various bases for distinguishing types, e g

sensory (auditory, visual, motile, etc), attitudinal (introvert, extravert), temperamental (phlegmatic, etc), general character (emotional, logical, etc)]

type/physical = one of three physical types distinguished and correlated with certain mental states (Kretschmer) [**pyknic** = tendency to distribution of fat around the trunk, **asthenic** = poor muscular development, **athletic** = well-developed muscles]

typical dreams = (*psychoan*) certain dreams, of general occurrence (although varying with different individuals in the character of the manifest content), which point to a common groundwork of unconscious material [E g of flying, of being partly naked, of emergence from a dark chamber containing water, or of the death of a beloved person] — Fr *rêves typiques*

U

ugly = characterizing that which is esthetically unpleasant [Contr w **beautiful**] **ugliness**^{n} — Fr *laid*, Ger *hasslich*

ulna = the larger bone of the forearm, situate on the side opposite to the thumb **ulnar**^{a} — Fr *cubitus*, Ger *Elle*

ulnar nerve = the sensory and motor nerve which supplies the shoulder, wrist, palm, and little finger — Fr *nerf cubital*, Ger *Ellenbogennerv*

ultimate value = (*math*, *statist*) that value toward which a series tends as more and more terms are included [Cf **limit, true score**]

ultra-violet = radiant energy of wave-lengths shorter than the extreme violet and lying beyond the visible spectrum [Usually assigned to vibrations below 400 or 390 millimicrons (mμ)]

umbilicus = the navel (Accent -lie-.) **umbilical**^{a} (accent -bil-)

unanschaulich = 1 abstract, conceptual, i e not given perceptually or imaginally, 2 impalpable [Ger]

uncertainty = absence of belief, due to insufficient data [Distg fr **doubt**, which implies the presence of conflicting evidence, contr w **certainty** = high degree of belief based on supporting evidence] **uncertain**^{a} — Fr *incertitude*, Ger *Ungewissheit*

uncertainty/interval of, see **interval of uncertainty**

uncinate gyrus, see **fornix** — Fr *circonvolution de l'hippocampe*

unconditioned reflex = an original, or innate, as contr w an **acquired** or **conditioned reflex**

unconscious = 1 characterizing an activity which occurs with no awareness of it on the part of the organism that executes the activity, 2 characterizing an individual who is unaware of the activities that he is executing at the moment, 3 (*psychoan*) in the strictly Freudian sense, characterizing certain dynamic processes (not merely latent thoughts) which do not reach consciousness in spite of their effectiveness and intensity, and which cannot be brought into conscious experience by any effort of the will or act of memory [Contr w **conscious**, distg fr **non-conscious** (applied to lifeless beings or substances) Cf (3) **id** Jung postulates a *collective* or *racial unconscious* (3) and Rank a *primary, embryonal state*, existing unchanged in the adult] **unconsciousness**^{n} — Fr *inconscient*, Ger *unbewusst*

uncontrolled = characterizing factors whose variations the experimenter has not regulated or measured

unconventional = characterizing actions which depart from the correct or traditional patterns of behavior common to the members of a given group [Cf **convention, folkways, unmoral**] **unconventionality**^{n}

uncritical, see **critical**

underestimate^n = the adoption (in the statistical treatment of experimental work) of a value below or of a quantity less than that which the data warrant [The value which is the underestimate is generally used deliberately in order to avoid the possibility of the quantitative conclusions being invalidated by unnoted factors, etc] **underestimate**^{v} — Fr *dépréciation, dévalorisation*, Ger *Unterschätzung*

undersensitivity, see **hypesthesia**

understanding = 1 (*hist*) the mental power, faculty, or function whereby the meaning of phenomena or propositions is apprehended by the individual, as distg (by Locke and others) fr **intuitive** or **pure reason**, 2 a loose syn for **apprehension of meaning** [Syn (2) **comprehension**, which applies to apprehension of specific situations, whereas **understanding** emphasizes the type of mental process involved Contr (1) w **sensation** and w **reason**] **understand**^{v} — Fr *compréhension*, Ger *Verstand*

understatement = a report concerning some value obtained partly from empirical data and partly by estimate, in which report liberal allowance is made for possible error, so that the value reported is reasonably assumed to be considerably less than the true value [Cf **underestimate** Contr w **overstatement**] **understate**^{v}, **understated**^{a} — Fr *jugement subordonné, proposition subalterne*

undoing mechanism = (*psychoan*) a ceremonial symptom in the compulsion neuroses, whereby a second action is intended to abolish the first action, as if it had not happened — Fr *mécanisme d'annulation rétroactive*

undulation = 1 a wave, 2 the propagation of a series of waves in a given medium, and the condition induced in that medium thereby [Syn **vibration**, applied usually to single or separate waves] **undulate**^{v}, **undulatory**^{a} — Fr *ondulation*, Ger *Wellenbewegung*

unequivocal = admitting only a single interpretation [Syn **univocal** Contr w **equivocal** = admitting of two or more conflicting interpretations] **unequivocality**^{n} — Ger *eindeutig*

unfitness = (*biol*) inferiority of an organism in structure or behavior, which results in its inability to cope successfully with environmental conditions [Cf **fitness**] **unfit**^{a} — Fr *inadaptation, inapte*^{a}, Ger *Ungeeignetheit, Untauglichkeit, Untauglichkeit*

ungual = pert to or located in the regions around the finger-nails and toe-nails (Pron **un-gwal**)

unaural = pert to one ear alone [Syn **monaural** (etymologically incorrect) Contr w **binaural** = pert to the two ears acting conjointly] — Fr *monauriculaire*, Ger *einohrig*

unicellular organism = an animal or plant which consists of a single cell [Includes **protozoa** = one-celled animal organisms, and **protophyta** = one-celled plants, contr w **multicellular organism**]

uniceptors = (*immunol*) hypothetical bodies which fix and inactivate toxins independently of complement [Cf **amboceptor**]

uniformity = the similarity of two or more events or processes, such that their essential characteristics (or components) and relations can be named and described in a single statement or law, which applies to any and all instances of the given data — Ger *Gleichformigkeit*

uniformity of nature = a final or highest summarization of all the laws formulated regarding the operations observed in physics, chemistry, and other branches of natural phenomena, which states that, given the same or exactly similar antecedents, the same or exactly similar consequents will in every instance follow

unilateral = pert to one side of the body

unimodal = characterizing a frequency curve which possesses only one peak or high point [Cf **mode** (2), **frequency polygon**]

unintentional = characterizing acts and their results, in cases where the outcome is not the end foreseen and desired by the agent

uniocular, monocular = pert to the single eye [Contr w **binocular** = pert to the two eyes acting conjointly The form **monocular** is more frequently used, but is etymologically incorrect] — Ger *einaugig*

union = (*relig*) the state of one who thinks and feels himself joined to God, i e one with God [The highest degree of mystical ecstasy] — Ger *Vereinigung*

unipolar cell, see **multipolar cell**

unique = characterizing that which is the only example or member of a class, that which occurs but once, or that which differs notably from all other individual characters or items with which it might seem to be comparable [Syn **sui generis**] — Ger *einzigartig, ausgezeichnet*

unison = (*mus*) a chord consisting of two tones which are the same in pitch [Syn **prime** Cf **interval**, and Table VII] — Ger *Einklang*

unit = 1 (*math*) a magnitude used as a common denominator in measurement, 2 any datum considered without regard to its internal differences **unit**[a] (1), **unitary**[a] (2) — Ger *Einheit*

unit character = (*biol*) a character or character-group of any organism which is transmitted in its entirety to the offspring, so that if it appears in any given descendant it manifests itself as a whole and not partially [According to Mendel's views, **unit characters** exist in pairs, which are opposite and mutually exclusive]

unit normal distribution = (*statist*) a normal distribution of measures or magnitudes whose standard deviation is equal to one (unity), and whose total area is equal to one

unit-task tests, see **work-limit method.**

unitary function, see **functional unity**

unitary type = according to eidetic theory, the type of individual whose after-images, eidetic images, and memory images show marked similarity [The existence of such cases suggested to E R Jaensch the genetic theory that the origin of various levels of imagery and of experience lies in an original, undifferentiated, eidetic unity] — Ger *Einheitstypus*

unity = 1 the characteristic of a datum such that it is (inherently or for purposes of investigation) regarded as being without parts or internal distinctions (= functional oneness or simplicity), 2 the characteristic of numerically distinct data of being so essentially similar that they may be regarded as forming a single class (= logical unity), 3 the characteristic of being a numerically distinct individual, though differentiated into a manifold of parts (= organic unity or **singleness**), 4 (*esth*) the characteristic of a work of art in that the parts are closely related [Cf **unit** (1), contr w **plurality** = the presence or distinguishing of more than one datum or part] **unitary**[a] — Ger *Einheit*

universal complex = (*psychoan*) an emotional experience, or complex, based upon one of the fundamental instincts [Contr w **particular complex** = based upon incidental circumstances in the individual's life history]

universality = 1 the validity which is assumed for certain propositions, in that they are accepted by mankind as true, although the grounds of their validity may not be known and may be purely emotional, 2 (*biol*) the presence or occurrence of a certain trait or function in all organisms of a given species [(2) is frequently used as a criterion of instinct] **universal**[a]. — Ger *Allgemeinheit*

universality/impression of = (*soc*) the belief that numerous other persons are responding similarly to oneself in a given situation, thereby justifying one's acceptance of an idea or facilitating one's behavior or course of action

universe = 1 the totality of existing things or phenomena, considered as constituting a single system, 2 syn for **universe of discourse**

universe of discourse = the field in which is situated the subject under discussion or investigation, and to which the treatment is limited [The concept is used esp to rule out possible exceptions to formulated laws, when such exceptions pertain to a different field from that under consideration]

univocal = having but one meaning [Syn **unequivocal** Contr w **equivocal**] **univocality**[n] — Fr *univoque*, Ger *eindeutig*

unknowable[n a] = (that which is) beyond the power of man to discover [Used by philosophers to denote a critical or dogmatic generalization Distg fr **undiscoverable**, or **unascertainable**, which usually imply contemporary inability to attain certain data or solutions, and fr **unknown** = not yet discovered] — Fr *inconnaissable*, Ger *unerkennbar*

unmusical = characterizing certain individuals who are unable to distinguish relatively large differences of pitch or to identify tunes, i e who are low in musical aptitude or are lacking in musical ability — Fr *amusical*

unpleasantness = a quality of hedonic tone or feeling whose motor correlate is movement away from the source of stimulation [Contr w **pleasantness**, correlated w movement toward the stimulus The German terms *Unlust* and *Lust* carry the meaning and the contrast better Distg fr **pain** (1), an acute sensation usually accompanied by hedonic unpleasantness] **unpleasant**[a] — Fr *deplaisir*, Ger *Unlust*

unreality/feeling of = a feeling attached to a perceptual experience, esp in pathological conditions, such that the experience appears to lack objectivity or reality [Cf **reality feeling**] — Fr *sentiment d'irréalite*, Ger *Gefuhl der Unwirklichkeit*

unreasonable = 1 (*logic*) characterizing a conclusion or hypothesis which is reached in violation of the canons of logic, 2 (*soc*) characterizing an individual who makes demands upon his associates which cannot be justified, or characterizing these demands [Contr w **reasonable**]—Fr *illogique*, Ger *unlogisch, unvernunftig*

unreasoning = 1 characterizing an individual who tends to act without use of the logical processes, 2 characterizing behavior which is not influenced or controlled by reasoning — Fr *alogique*

unreflective = without use of thought processes

unsociable = inclined to shun the company of other persons **unsociability**ⁿ — Ger *ungesellig*

unsocial = 1 characterizing an individual who does not fit into the current social system, or an act which is at variance with contemporary social usage, 2 not inclined to seek the company of other individuals [Syn (2) **unsociable** Cf **antisocial,** which denotes active opposition to social intercourse or to social organization] — Fr *asocial*, Ger *ungesellig*

unsocialized = lacking in social training or habits, or in qualities of sympathy and social cooperation

unspaced repetition = a procedure in the learning of a verbal series, or of a complicated motor act that is performed at first only with errors and malcoordinations, by which repetitions or trials are made to succeed one another without interruption or intervening rest periods till the learning is completed [Contr w **spaced repetition** = repetitions with intervening rest periods Cf **massed learning**] — Fr *repetition sans intervalles de repos*

unstimulable = characterizing an organ or region of the body which is not susceptible to stimulation of a given sort or intensity

unsuccessful act = 1 a response or series of responses in trial and error learning which, taken by itself, does not lead towards the goal, and is thus apparently futile, 2 a response to a portion of some situation, which is not part of the most economical response to the total situation [Contr w **successful act**] — Fr *acte malheureux*

unthinkable = characterizing a proposition or generalization which, upon attempted analysis, reveals such intrinsic inconsistency that it cannot be either affirmed or denied [Syn **inconceivable**] — Fr *inconcevable, impensable*, Ger *undenkbar*

upper category = (in the method of single stimuli) those reports which will surpass the other reports in frequency if the stimulus-magnitude is sufficiently increased

upsetⁿ = 1 a condition of the organism brought about by a series of stimuli which cannot be responded to adequately, resulting in dissociation of neural function and of various, usually integrated behavior patterns, 2 a marked emotional disturbance (Accent **up-**) — Fr *bouleversement*, Ger *Aufregung*

uraniscolalia = speech hindered by a cleft palate [A form of **dyslalia**]

uranism = homosexuality accompanied by aversion for persons of the opposite sex

Urban's tables = a set of tables for use with F M Urban's modification of the constant process (phi-function of gamma) [Published in *Arch f d ges Psychol*, 1912, 24, 240 f, reprinted w corrections in Brown and Thomson, Essentials of Mental Measurements, 3d ed, 202 f]

urethra = the duct by which urine is discharged from the bladder **urethral**ᵃ (Accent **-ree-**) — Ger *Harnrohre*

urethral character, see **character trait**

urethral erotism = (*psychoan*) the centralization of libidinal feelings in the urethral zone

urge = a strong tendency to perform a certain act, i e a strong motive, usually not definitely conscious [Syn **drive** (pref)] — Fr *impulsion, appétence*, Ger *Drang*

urinary reflex, see **vesical reflex.**

urine = the excretion of the kidneys, stored in the bladder and discharged through the urethra **urinate**ᵛ, **urination**ⁿ — Ger *Urin, Harn*

urning, urningism = a male who consciously feels like a woman towards men (Ulrichs, 1864-5) [Cf **homosexuality**]

urogenital = pert to the combined urinary and genital systems [Syn **urinogenital**]

useⁿ = 1 the function or type of operation for which a given structure or organic mechanism is fitted, 2 the actual operation of a given structure or mechanism [Cf **utility**] **use**ᵛ (2) (pron uze) — Fr (1) *emploi*, (2) *usage*, Ger *Gebrauch*

use and disuse theory, use-inheritance = the theory, advanced by J B Lamarck, according to which the structural or functional changes in organs, brought about by their use or their disuse, are passed on to the progeny — Fr *t de l'usage et de la desuetude, heredité par l'usage*

use/law of = a law of learning which states that the more a neural connection between a given stimulus and a given response is exercised, the more readily will the stimulus bring about this response [Syn **law of exercise**]

useful (serviceable) duration = that temporal portion of the initial passage of electric current which is instrumental in producing a response in nerve or muscle, further stimulus duration having no additional effect (Lapicque) — Fr *temps utile*, Ger *Nutzzeit*

useless movements = those movements in a complex response which in no wise assist in attaining an adaptive result, and which (usually) impede its attainment [The **learning** process consists, in part, in the elimination of many such movements] — Fr *mouvements inutiles*

uterine life = the period of life of a mammal before birth — Fr *vie uterine*

uterus = a sac-like structure, present in mammals, in which the embryo develops [Syn **womb**] **uterine**ᵃ — Fr *matrice, uterus*, Ger *Gebarmutter*

utilitarianism = the social or economic theory which regards the practical usefulness of any object or plan as the proper criterion for judging its value [Hist linked with **hedonism,** but contr w it by some recent writers, **utilitarian** behavior being regarded as characterized by social (moral) sanctions] **utilitarian**ᵃ — Fr *utilitarisme*

utility = the fitness of a character, organ, mechanism, function, or type of operation, to preserve the life of a given organism, to continue the species, or to bring to completion some biological process [Syn **usefulness** (abstract)] **useful**[a] — Ger *Nutzlichkeit*

utricle, utriculus = a membranous sac of oblong form, contained within the posterior portion of the vestibule of the internal ear [It opens posteriorly by five orifices, which communicate with the semicircular ducts, and anteriorly by the utriculosaccular duct, which connects with the endolymphatic duct The anterior-dorsal wall of the utricle is thickened to form an epithelial structure called the *macula of the utricle*, to which are distributed filaments of the VIIIth nerve Distg fr **saccule**]

uvea = the iris, ciliary body, and choroid coat of the eye, considered as a unit and constituting the pigmentary layers of the eyeball

uvula = the conical appendage which hangs from the free edge of the soft palate — Fr *luette (du palais)*, Ger *Gaumenzapfchen*

V

v d (double vibration), see **vibration**

v s (single or simple vibration), see **vibration**

vagina = the passage leading from the exterior of the body to the uterus (Accent -jye-) **vaginal**[a] (accent vaj-) — Ger *Scheide*

vaginismus = spasmodic involuntary contraction of the sphincter vaginae or associated muscles, resulting in prevention of intromission (or retention) of the penis, usually psychogenic — Ger *Scheidenkrampf*

vagus nerve, see **pneumogastric nerve**

valence = (*Gestalt*) a term used by analogy to signify the attracting or repelling value of objects or activities (Lewin) [It may be positive (toward) or negative (away from) the object or activity] Ger *Aufforderungscharakter*

valence/chromatic = a measure of the color-producing power of a visual stimulus, as contr w its capacity to evoke brilliance [**chromatic valence** is a relative measure as between stimuli of different hues, when the stimuli yield *white* by mixture, the chromatic valences are ordinarily taken as equal, under such conditions, their brilliance-producing powers are usually very different Cf **chroma-brilliance coefficient**]

valence/light = the effectiveness of a given light stimulus, which varies with its frequency and intensity as well as with the constitution of the retina, in evoking a given light or color quality [In **color-blindness**, the *yellow* valence of certain long or medium wave-length stimuli may be retained, while their *red* or *green* valence is lost]

validity = 1 the characteristic of an argument or inference, such that it is set forth in correct logical form, and that it leads to a reliable conclusion provided the premises or bases are correct, 2 (*statist*) the agreement between a test score or other measure and the thing which it reputedly measures [(1) usually denotes formal *correctness*, not objective **truth**] **valid**[a] — Ger *Gultigkeit*

validity coefficient = (*statist*) the product moment coefficient of correlation between the measure of a test and that which it reputedly measures (usually indicated by the title of the test), when quantitative scores of both are available

value = 1 the quantitative or numerical measure of any datum in a general scale or in terms of a standard, 2 the subjective appreciation or measure of the importance of a given datum or factor in relation to other data or factors of the same class, 3 (*vis*) syn for **brilliance** [Syn (2) **worth**, avoids confusion with **value** (1) (3) is used in art and esthetics, rarely in visual treatises] — Fr *valeur*, Ger *Wert* **evaluate**[v] (1, 2), **value**[v] (2), **valued**[a] (2), **valuable**[a] (2)

vandalism = malicious or careless destruction of property, esp property characterized by beauty or historical association — Ger *Zerstorungswut*

vanity = excessive self-appreciation, and often a marked desire for the notice and praise (by others) of one's own appearance, attainments, etc [Cf **conceit, pride**] **vain**[a] — Ger *Eitelkeit*

variable[n] = 1 (*math*) a quantity which may take different values, 2 the symbol which stands for this quantity [When two or more variables are interrelated as indicated by an algebraic equation, and values are assigned to all the variables except one, that one is called the **dependent variable**, the other variable or variables are the **independent variables** Contr w **constant**] **variable**[a] — Ger *veranderliche Grosse*

variable error = a deviation of experimental results from the true value or from an established standard, due to (random) factors which affect each observation separately [Distg fr **constant error** = due to a factor which remains unchanged during the entire series] — Ger *veranderlicher Fehler*

variability = 1 (*biol*, *psychol*) the characteristic of being subject to change in value, quality, form, etc, from time to time [Applied to biological characters and species, to modes of behavior and experience, to temperament, etc In biology classed as (*a*) **continuous** (e g variations in height of human beings), and (*b*) **discontinuous** (e g production of discrete types with no intermediate forms)] **vary**[v], **variable**[a] — Ger *Variabilitat*, *Veranderlichkeit*

variability = 2 (*statist*) the dispersion of the measures which constitute a frequency distribution [The most common measure of variability is the **standard deviation**, other measures used are the **variance, average deviation, quartile deviation, probable error,** and **range**]

variance = (*statist*) the standard deviation squared

variation = 1 (*biol*) a generic term used to characterize any difference between organisms, whether due to environment (somatic variation, modification) or to a change in the germ plasm (germinal variation, mutation), 2 a change or alteration of any datum in some specific respect [(2) includes changes in behavior, temperament, mathematical terms, etc] **vary**[v] — Ger (1) *Variation* (2) *Veranderung*, *Anderung*

variational psychology, see **differential psychology**

variations/concomitant, see **concomitant variations/method of**

variator, see **tone variator** and **Stern variator**

varied response = behavior of an organism (usu-

ally in a condition of maladjustment, or goal-seeking) characterized by a succession of acts or trials which change in direction, in motor organs involved, or otherwise [Contr w **stereotyped response**]

variety = a subdivision of a species, based upon differential characteristics less important than those which distinguish species [Cf **classification/zoological.**] — Ger *Verschiedenheit*

vas deferens = the duct which leads from the testis to the ejaculatory duct — Fr *canal déférent.*

vascular = pert to or rich in vessels, more esp blood vessels

vascular sensation = a complex of sensations (temperature, and a mingled tension, tickling and mixed pain) which attends abrupt and extreme vascular changes in the skin, as in blushing

vascular system = the system of blood vessels in the body — Ger *Gefasssystem*

vasoconstrictor, vasodilator, see **vasomotor nerve**

vasomotor centers = regions in the tuber cinereum, medulla oblongata, and spinal cord, which formerly were supposed to govern the normal tonus of the blood-vessels and control variations of this tonus

vasomotor nerve = a variety of sympathetic or autonomic nerves which control the expansion or the contraction of the blood vessels [They are called **vasodilator** and **vasoconstrictor** respectively] — Ger *Gefassnerv*

Vater-Pacinian corpuscles, see **Pacinian corpuscles.**

vector = (*phys*) a directed magnitude, e g a force or a velocity

vegetable = (*pop*) an edible plant — Fr *légume*

vegetate = 1 to fulfill the functions of a plant, i e the nutritive and growth functions, 2 (*pop*) to live like a plant without noticeable performance of the higher human functions

vegetative = pert to nutrition and growth in organisms — Fr *vegetatif*

vegetative function = any one of the biological processes which are concerned with nutrition and growth in organisms [Contr w **mental function,** or **response function,** concerned with the adjustment of relations between the organism and its environment]

vegetative nervous system, see **autonomic nervous system, sympathetic nervous system**

vein = a duct or tube which conveys the blood toward the heart [Distg fr **artery,** which conveys blood away from the heart] **venous**^{a} (accent **vee-**). — Ger *Ader, Vene*

velleity = 1 incomplete volition, 2 the lowest degree of desire (4 syll Accent **-lee-**) — Fr *velléité*, Ger *tatloser Wille*

velocity = rate of motion in a given direction [Cf **speed** = rate of motion without regard to direction] — Fr *velocité, vitesse*, Ger *Geschwindigkeit*

venereal = 1 pert to coitus, 2 pert to infectious diseases which may be transmitted by coitus (Accent **-nee-**)

vengeance = an act which is motivated by the desire or aim to inflict injury upon another individual as compensation for some injury inflicted, or believed to have been inflicted, by that individual or his associates [Cf **revenge**] — Fr *vengeance*, Ger *Rache*

ventral = pert to or located on the belly [Contr w **dorsal.** These terms are now generally substituted for **anterior** and **posterior,** used hist in human anatomy] **ventrad**^{adv}.

ventricle = 1 one of the cavities within the brain, developed out of the embryonic medullary cavity, 2 one of the chambers of the heart, 3 any cavity or hollow organ of the body [In man there are four ventricles in the brain, the first two lying laterally — one in each hemisphere, between them in the midline is the third ventricle, connected with the lateral on each side by the foramen of Monro, and with the fourth ventricle by the aqueduct of Sylvius] **ventricular**^{a}. — Ger *Hohle* (= brain ventricle), *Kammer* (= heart ventricle)

ventriloquism = a mode of speaking employed by certain individuals in which the lips are kept closed, so that the listener mislocates the source of sound and is often subject to the illusion that inanimate objects are talking **ventriloquize**^{v}; **ventriloquist**$^{n p}$ — Ger *Bauchreden*

veratrin = a name applied to a mixture of alkaloids extracted from cevadilla seeds [Not to be confused with **veratrum,** a heart drug **veratrin** produces a characteristic effect on muscle and nerve endings Medicinally, it is used as a counter-irritant in neurologic conditions]

verbal = pert to words, or to the wording of definitions [Embraces both **oral** and **written,** but sometimes confused with **oral** Distg fr **factual,** pert to actual phenomena] — Ger *Wort-*

verbal aphasia, see **aphasia**

verbal behavior = the making of responses which, when overt, produce vocal, gestural, or written language symbols [Contr w **general skeletal behavior,** w **visceral behavior** and often w **non-verbal behavior**] — Fr *comportement verbal*

verbalism = 1 the reliance, in one's thinking, upon associations between words instead of upon relations between things, 2 uncritical acceptance of definitions as if they were explanations, or statements of causal relations

verbiage = the use of a superabundance of words in sentences [A vocomotor attitude in certain normal individuals, and a characteristic of certain mental disorders] — Ger *Wortschwall*

verbigeration = a condition in which the individual repeats words and sentences without reference to their meaning [A form of **dyslogia** Syn **cataphasia, catalogia**] — Ger *Wortsalat*

verbogestural coordination = the simultaneous use of speech and gesture language

vergence = (*ophthal*) a mutilated word, which conveys the undifferentiated meaning implied in the terms **convergence, divergence,** and **sursumvergence,** esp the extent to which these ocular movements may be forced by placing prisms before the eye

veridical = corresponding to truth or objective fact [Applied (rarely) to testimony, more commonly (in psychic research) to the correspondence of dream content or of the products of motor or sensory automatisms to otherwise unrelated objective events] — Ger *wahrhaftig*

verification = the collecting of empirical evidence which proves a stated hypothesis, in particular, the discovery of phenomena or events which agree with predictions based upon the hypothesis in question **verify**^{v}, **verifiable**^{a} — Ger *Bestatigung*

vermis = the median portion of the cerebellum, between the cerebellar hemispheres — Ger *Wurm*

vernier = a subsidiary scale annexed to a scale of larger units of measurement, so as to permit an experimenter to read off directly fractions of the latter [There are several forms (*a*) the **vernier scale,** in which 9 or 11 units are equivalent to 10 units of the actual scale, (*b*) the **screw vernier,** in which the circumference is divided into 10 units, (*c*) the **pendular vernier,** for time measurements, which is 1/10 longer or shorter than the measuring pendulum These all measure to tenths of the coarser scale Syn **nonius**]

vertebra = one of the series of bones or cartilages which form the vertebral or spinal column **vertebrae**[pl], **vertebral**[a] (accent ver-). — Ger *Ruckenwirbel, Wirbelknochen*

vertebral column, see **spine**

vertebral theory of the skull = the theory, advanced by Oken and Goethe, and now generally accepted, that the skull consists of a series of modified vertebrae — Fr *t vertebrale du crâne*

vertebrata, vertebrates = a major division of the animal kingdom, which comprises all animals having a segmented bony or cartilaginous spinal column on the dorsal side [**vertebrate**[sing] is applied to any animal belonging to this division Syn **craniata, craniates**] — Ger *Wirbeltiere*

vertex = 1 the uppermost point of a geometrical figure, 2 the meeting point of lines (e g the vertex of an angle), or of a curve and its axis, 3 the top of the human head — Ger (1, 3) *Scheitel*, (2) *Scheitelpunkt*

vertical = pert to the axial direction of the force of gravity, or characterizing an object or other datum oriented in that direction

vertical axis = 1 the axis of the human body from head to feet, 2 the axis of the eyeball which corresponds to the direction of gravity [Syn (1) **cephalocaudal axis,** which applies also to subhuman anatomy]

vertigo = a sensation of whirling and dizziness, attributable usually to over-stimulation of the semicircular canal receptors **vertiginous**[a] [Cf **dizziness**] — Ger *Drehschwindel, Schwindel*

vesical = pert to or located in the bladder

vesical reflex = reflex micturition or urination, stimulated by filling of the bladder [Mediated by 3d to 5th sacral segments of cord Syn **bladder r , urinary r**]

vesicle = (*anat*) a small sac which contains liquid **vesicular**[a] — Ger *Blase, Bläschen*

vesicle/auditory = the embryonic expansion of the epiblast, which later becomes the membranous labyrinth Syn **acoustic v , otic v**] — Ger *Horbläschen*

vesicular layer, see **ganglion cells/layer of** — Fr *couche ganglionnaire*

vestibular aqueduct = (*and*) a canal in the petrous portion of the temporal bone, through which the endolymphatic duct runs inward to the cranial cavity

vestibular canal, see **scala vestibuli**

vestibular membrane, see **Reissner's membrane.**

vestibular nystagmus, see **nystagmus**

vestibular stimulation = stimulation of the end-organs of the vestibular branch of the VIII cranial nerve, normally by rotation of the head [**galvanic v s** = passage of sufficient electric current through the labyrinthine region of the head to elicit vestibular response, **mechanical v s** = direct application of mechanical pressure in region of the VIII cranial nerve endings, by inflation of the vestibule through a fistula in man, by surgically opening the vestibule in animals, by substitution of iron filings for otoliths in fishes (i e pressure produced by magnetically moving the filings), **thermal** or **caloric v s** = irrigation of the ear with cold or warm liquid Cf **nystagmus**]

vestibular system = the neural mechanism for reception and integration of sensory data from the static sense and for the resulting responsive adjustment of the organism's postures and movements with respect to gravity [Cf **labyrinthine perception, rotation perception, nystagmus, equilibrium/perception of, labyrinthine righting reflexes**]

vestibule = a portion of the osseous labyrinth of the internal ear, situate between the cochlea and the semicircular canals [In its lateral and median walls are two openings to the tympanic cavity, the oval and round windows, it contains two membranous sacs, the utricle and the saccule] **vestibular**[a] — Ger *Vorhof*

vestibule school = a factory school for teaching beginners in a separate room rather than in the regular workshop [The emphasis is on learning rather than production] — Fr *école d'apprentissage*

vestibulospinal tracts = the efferent nerve-columns at the sides of the spinal cord towards the front, which lead from the vestibular nuclei of the auditory nerve into the cord — Fr *faisceaux vestibulospinaux*

vestige = a structure in an organism, which was more highly developed in its ancestors [Contr w **rudiment** (1) or **Anlage** = a primitive structure which later may evolve or develop into a functioning organ] **vestigial**[a] — Ger *Überbleibsel*

viable[a] = capable of living [Used esp to characterize the capacity of a normal organism in its earliest stages to survive] — Ger *lebensfähig*

vibration = a periodic to-and-fro motion of any body or particle [A pendulum executes a complete **cycle** or **double vibration** (v d , D V) when it swings (e g) from the extreme right to the extreme left and back again In the older literature the term **simple vibration** or **single vibration** (v s) was applied to a single swing (e g from right to left), but was often confused with v d The term cycle (~) avoids this ambiguity The form of the **pendular vibration** may be expressed mathematically by a simple sine (or cosine) equation, and is called a **sine wave** The sound waves from tuning forks, lightly blown bottles, etc , are of this form Cf **sound, sound-wave, cycle**] **vibrate**[v], **vibratory**[a] — Ger *Schwingung*

vibration rate = the number of times in a given interval that a body passes through successive cycles of change of position [Syn **frequency**] — Ger *Schwingungszahl*

vibration/sympathetic, /forced, see **resonance.**

vibrato, see **tremolo**

vibratory sensation, vibration sensation = a sensory experience characterized by quick pulsations, normally aroused by contact with a vibrating body [Syn **pallesthesia**]

vice = a significant or minor habitual mode of behavior at variance with social standards [Pop limited to sex indulgence, alcohol, drugs, and gambling Contr w **virtue** = adherence to the higher social norms of behavior] **vicious**[a] — Ger *Laster, Untugend*

Vierordt's law = the principle that the more moveable a part is, the lower is the two-point limen of the skin over it, i e the two-point limen decreases from the acromion to the tips of the fingers

Vincent learning curve = a learning curve, first suggested by S B Vincent, which makes comparable the learning curves of different subjects by basing each curve upon the same number of units, each of which consists of a given part of the time or number of trials required to achieve mastery of the given problem — Fr *courbe d'apprentissage de V*

violet = the short-wave radiations of the visible spectrum, from about wave-length 433 mμ to the limit of visibility, or the specific color-quality excited by these rays

violet blindness, see **tritanopia**

viraginity = a form of homosexuality in which the sexual feelings and mental characteristics of a woman resemble those of a normal man **virago**[np]

virile reflex = 1 contraction of the bulbocavernous muscle of the urethra, elicited by tapping the back of the penis near the scrotum, the sheath having been made tense, 2 erection of the penis elicited by visual, remote tactual, olfactory or other stimuli [(1) is a normal reflex, mediated by 3d to 5th sacral segments of the cord Syn (1) **bulbocavernous r**, **penile r**, **penis r** Syn (2) **virile response** (prefd), **erection**]

virtual = in almost exact agreement with **virtually**[adv]

virtual image = (*opt*) an image apparently formed by a lens or a mirror at a place not actually traversed by the light rays, but capable of geometrical reconstruction by retracing the rays in straight lines [E g the so-called *reflection* of an object as seen apparently behind an ordinary mirror]

virtue = 1 the act of adhering (or the quality through which one adheres) to those social ideas and standards in general which involve the notion of moral conduct, i e the choice of the right and avoidance of the wrong, 2 a specific type of conduct (e g honesty), through which one adheres to a social standard to which moral significance is attributed [Contr w **vice** = departure from these standards] **virtuous**[a] — Fr *vertu*, Ger *Tugend*

virulent = a quality of olfactory sensation of which morphine is a typical example [A class of Zwaardemaker's Cf **odor, odor prism**] — Fr *repoussant*

viscera[pl] = the large internal organs of the body **visceral**[a] — Ger *Eingeweide*

visceral reflex = any reflex caused by excitation of one of the viscera

visceral sense, see **organic sense**.

visceromotor reflex = contraction of a parietal muscle of the abdomen or thorax elicited by a stimulus arising in one of the contained viscera [Mediated by 1st to 12th thoracic segments of the cord]

viscosity = the resistance of a substance to change of form — Ger *Zahigkeit*

visibility = a property assigned to radiant energy within a certain range of wave-lengths by reason of its power to excite a visual receptor process, or to evoke the introspective phenomenon of brilliance [Cf **visibility coefficient**.] **visible**[a] — Ger *Sichtbarkeit*

visibility coefficient = the numerical designation of the visibility of radiant energy, particularly that of a single spectral wave-length [The relative visibility coefficient of a given sample of radiant energy is the reciprocal of the energy required to evoke a brilliance equal to that of a standard field, spectral energy of maximum visibility and of wave-length about 554 mμ being taken as unity A visibility coefficient may also be assigned to any mixture of wave-lengths]

visibility curve = a graphic representation of the manner in which brilliance varies as a function of wave-length [The curve is drawn by plotting the visibility coefficients of spectral radiant energy of various wave-lengths, each against its respective wave-length as abscissa The standard visibility curve represents photopic or daylight vision for the average normal human eye Cf **visibility coefficient**]

visible = capable of being seen, or represented in consciousness by the operation of the organs of vision — Ger *sichtbar*

visile, visual type = a class of individuals who use mainly the sense of sight, or whose imagery is mainly visual [Cf **type/mental**]

vision = 1 the sense whose receptor organ is the eye and whose proper stimulus is radiant energy of wave-lengths approximately 400 to 760 millimicrons, 2 a visual hallucination or apparition — Ger (1) *Gesicht*

vision/binocular, /uniocular, see **binocular vision**, etc

vision/field of, see **visual field**

vision/foveal = visual experiences due to stimulation of the fovea centralis, or center of the retina [Contr w **peripheral vision**]

vision/line of, see **visual axis** and **direction/line of**

vision/peripheral = visual experiences due to stimulation of the outlying portions of the retina [Contr w **foveal vision**]

vision/persistence of = the tendency of visual excitation to outlast the stimulus, or (more generally) the tendency of changes in visual excitation to lag behind changes in the stimulus

vision/theory of = a systematic attempt to account for the various phenomena of visual perception in relation to the known structure and functions of the visual organs [Included by extension are the study of photo receptors, the action of nerve-endings and of related nervous structures in general responses to light in lower organisms the higher psychological implications of light, color, form, and their spatial and temporal relations, etc The anatomical and physiological basis may be, to a considerable extent, hypothetical, as is the case with the current **theories of color vision** The leading theories are known as (1) **Young-Helmholtz** (three-component), (2) **Hering** (antagonistic process), (3) **Ladd-Franklin** (genetic), (4) **von Kries** (duplicity), (5) **Edridge-Green**]

visual acuity = the capacity of the visual organ for recognition of small space intervals in the discrimination of form [The threshold separation of two points is the simplest illustration, cf **two-point discrimination** Numerous variations in test-object are possible Cf **test chart** visual acuity varies inversely with the angle subtended by the letter, etc, in the chart] — Ger *Sehschärfe*

visual angle = the angle subtended by any object of vision at the nodal point of the eye [The magnitude of this angle determines the size of the corresponding retinal image, independently of the size or of the distance of the object alone] — Ger *Gesichtswinkel*

visual axis = a straight line passing through the external point of fixation and the nodal point of the eye, to the point of clearest vision on the retina [It does not usually coincide with the **optical axis** of the eye Syn **sighting line,** also in loose usage **line of sight, line of vision, visual line** Distg fr **line of direction**] — Ger *Gesichtsachse, Gesichtslinie*

visual cells, see **neuro-epithelial layer**

visual field = the totality of visual stimuli which act upon the unmoving eye at a given moment, esp when considered as projected upon a spherical surface from the eye as center, or upon a plane surface at right angles to the visual axis [Syn **field of vision** Cf **perimeter, campimeter**] — Fr *champ visuel,* Ger *Gesichtsfeld, Sehfeld*

visual field/subjective = that spatial aspect of conscious experience which is derived from the relative locational references existing between visual presentations [This field is a three-dimensional manifold or space-field, and has a natural center of coordinates at the *empirical eye,* or subjective point of view Cf **visual space**]

visual line, see **visual axis** and **direction/line of**

visual process = any change or operation which occurs in vision, or (in certain contexts) the operation of vision in general

visual purple = a substance found in the rods of the vertebrate retina, esp of the dark-adapted eye, which bleaches rapidly on exposure to light, and is believed to be the substance underlying scotopic or twilight vision [Syn **rhodopsin**] — Fr *pourpre visuel, p rétinien,* Ger *Sehpurpur*

visual righting reflexes = orientation of the head depending upon the fixation of an object in the visual field [Mediated by the optic tracts and tectospinal and descending corticospinal tracts to neck muscles] — Fr *réflexes de redressement visuel*

visual space = the extended world as perceived by means of the eye [In practice it is the generic term for the discussion of perception of position and length by the retina, of depth or distance away from the retina, and of form or figure in one and two dimensions Cf **visual field/subjective**] — Ger *Sehraum*

visual yellow = a yellow substance formed in the retina under certain circumstances when **visual purple** is bleached by the action of light — Fr *jaune visuel,* Ger *Sehgelb*

visualization = the experiencing of visual imagery **visualize**^{v}, **visualizer**$^{n\,p}$

vital = 1 pert to life, 2 of essential importance

vitalism = a biological theory which assumes the existence and operation of a non-material entity or causal agent as an essential factor in the regulation of form, behavior, and evolution of organisms [Contr w **mechanism**] **vitalistic**^{a}, **vitalist**$^{n\,p}$

vitality = 1 the property or characteristic of being alive or of exercising the organic functions, 2 ability of an organism to maintain its organic existence, 3 syn for **vigor, power of endurance** — Ger *Lebenskraft*

vitascope, see **stroboscope**

vitreous, vitreous body, vitreous humor, vitreum = the transparent, jelly-like mass which fills the eyeball from the concave surface of the retina as far forward as the lens — Ger *Glaskörper*

vividness, see **clearness** — Fr *vivacité,* Ger *Lebhaftigkeit*

vocabulary test = a type of test in which a standard list of words is presented to the testee, who is asked to define them (or check those whose meaning he knows) when the list is a random sampling from a complete general dictionary, the score earned is taken as an index of the testee's total vocabulary [A typical example is found in the Stanford Revision of the Binet-Simon Scale]

vocal cords = the ligaments of the larynx which are concerned in vocalization [They include (1) **true vocal cords** or **vocal bands** = two inferior thyro-arytenoid ligaments, and (2) **false vocal cords** = two superior thyro-arytenoid ligaments] — Ger *Stimmbänder, Stimmlippen*

vocal language, see **speech**

vocal muscles = the extrinsic and intrinsic muscles of the larynx — Ger *Stimmmuskeln*

vocal organs = the entire group of organs concerned in the production of (vocal) sounds

vocal register = the tonal range or compass of the voice — Ger *Stimmregion*

vocal (or speech) response (or reaction) time = the period from the presentation of a stimulus to the beginning of a vocalized response [Cf **word-reaction time**]

vocal tone recorder = an apparatus designed to record the pitch of sung tones by means of smoke rings (Marbe) or by other methods — Ger *Kehltonschreiber*

vocality = a vowel-like characteristic or attribute of sound [**vocality** varies with the pitch of the pure tone] — Ger *Vokalität*

vocation = that form of productive activity in which an individual engages as a means of subsistence — Ger *Gewerbe, Beruf*

vocational aptitude test = a type of test which aims to disclose the fitness of the testee to succeed in a given vocation — Ger *Eignungsprüfung*

vocational guidance, selection, see **guidance/v, selection/v**

voice = the sounds produced by the vocal organs in which any succession of sounds primarily involves the use of the larynx **vocal**^{a}, **vocalization**^{n} = the process, **vocalize**^{v}, **utter**^{v}, **speak**^{v} (more restricted) — Ger *Stimme*

voice-key = a response key operated by sound waves of the human voice [Scripture's voice-key makes use of a mica plate which covers the wide end of a funnel, the reactor speaks into the smaller end of the funnel, causing the mica plate to vibrate and break an electric contact

Dunlap's voice-key employs a small swinging hammer, which, at rest, makes contact with a round metal diaphragm supported vertically before the mouth Syn **sound-key**] — Fr *clef vocale*, Ger *Schallschlussel*

voices = (*pop*) a hallucination of talk, esp of derogatory or accusatory or other remarks concerning the individual himself

volar = pert to or located in the palm of the hand or the sole of the foot

volition = 1 the act of deciding upon a course of action and initiating it, 2 a complex experience in which kinesthetic sensations and the idea of end (or goal) are prominent [Syn **will**] **voluntary**[a] = pert to the will or initiated by the individual himself, **volitional**[a] = pert to the study — Ger *Willenshandlung*, *Willensvorgang*

volley, volley fire = 1 (*neurol*) synchronous discharge, esp the case in which rhythmic series of pulsations of like frequency and in phase with one another are transmitted simultaneously along the different fibers of a nerve, 2 a brief succession of nerve pulsations, of muscular twitches, etc [Contr (1) w **platoon fire,** where the pulsations on different fibers are not in phase with one another] — Fr *salve*

volt = the electromotive force necessary to produce a current of one ampere through a resistance of one ohm

voltmeter = an instrument for measuring electromotive force in volts

volume = size in three dimensions [Distg fr **mass** = amount of content in a given volume] — Ger *Rauminhalt*

volume/auditory = 1 the spatial characteristic of auditory experience, described in terms of size or diffusion, e g low tones are large, massive, and all-pervasive, whereas high tones are small, thin, and concentrated, 2 (*mus*) the loudness, quantity, or fullness of tone [Some psychologists regard **volume** (1) as an attribute of pure tones, it is not to be confused with **loudness**

volume hypothesis = the hypothesis that auditory experiences possess an attribute called **volume,** which varies from large to small [**volume** is said to vary with pitch and intensity, and with localization Its attributive status is at present uncertain]

voluminousness = the extensity attribute or dimension of experience [Applied esp to the auditory and olfactory fields Cf **extensity**] — Fr *voluminosite*

voluntarism = 1 (*psychol*) the theory that will or a will-unit is the typical and fundamental psychic element or aspect, 2 (*philos*) the theory that ultimate reality is will

voluntary = pert to the will or its activity **will**[n], **volition**[n] — Ger *freiwillig*, *willkurlich*

voluntary activity = 1 activity which is preceded by the idea and desire of accomplishing a certain result, 2 delayed conscious response, 3 (*beh*) a conditioned response aroused by self-excited stimulation and having a longer latent time and duration than the corresponding unconditioned response [Cf **will**] — Ger *Willkurhandlung*

voluntary reaction, see **intentional response**

Volvox = a flagellate found only in spherical colonies of interconnected individuals [Its colonial habit suggests an intermediate position between Protozoa and Metazoa, the fact that it manufactures its food out of inorganic substances causes botanists to claim it as a plant The pigment- or eye-spot of every member of the colony is turned toward the outside of the sphere]

vomiting = the forcible expulsion of substance from the stomach through the mouth, elicited by intestinal, gastric, cardiac, or pharyngeal irritation [Mediated by X cranial to 12th thoracic nerves, and vomiting center in lower oblongata] — Fr *vomissement*, Ger *Erbrechen*

vomiting center = the lower central region in the medulla oblongata which mediates the vomiting reflex

von Baer's law, see **Baer's law.**

von Frey esthesiometer (or **aesthesiometer**), see **hair esthesiometer**

von Frey hairs = standard hairs (horse hair or human hair) used in the **hair esthesiometer** — Fr *crins de von F*

von Frey limen gauge, see **limen gauge** — Fr *appareil de von F pour mesurer le seuil de pression*

von Kries theory of vision, see **duplicity theory**

voodooism = a system of beliefs and practices in sorcery and magic prevalent among the natives of West Africa, and among negroes of the West Indies and southern United States **voodoo**[a,np]. — Fr *vaudou*

Vorstellung = 1 that mental process or function whereby an object is presented to consciousness or is experienced, 2 that mental process or function whereby an object is presented by way of memory or imagination [Ger In sense (1) the term includes both **perception** and **idea,** and corresponds to the historic use of idea in associationism, in sense (2) the word is limited to *reproduced* contents and consequently may be translated as idea in contradistinction to **perception,** corresponding in general to *representation* as contr w *presentation* in English usage In the **act psychologies** the term frequently includes both the act (*Vorstellen*) and its content (*Vorstellungsinhalt*)] **vorstellen**[v]

Vorticella = a genus of ciliate Protozoa which resemble Stentor but are distinguished from it by more concentration of cilia about the mouth and by oval rather than trumpet shape

vowel = 1 a conventional vocal sound produced by certain positions of the vocal organs, which offer little obstruction to the breath, and form a double resonating system above the larynx, 2 the letter which represents such a sound [Distg fr **consonant**] — Ger *Vokal*, *Selbstlaut*

voyeur = (*psychoan*) a person who obtains sexual gratification from watching sexual stimuli [Syn **inspectionism, scopophilia** Contr w **exhibitionism**]

W

w factor, will factor = a determiner of success in certain lines of activity, postulated by Webb and adopted by Spearman as accounting for purposive consistency or the persistence of motives [It represents the will element in intelligence, and is independent of the **c factor** Cf **g factor, c factor**] — Fr *facteur de volonte*

wakanda = a term in Siouan languages signifying (literally) the mysterious one, and denoting an impersonal all pervading supreme power in the universe [Cf **manitou**]

wakeⁿ = 1 (*anthrop*) the practice of remaining awake during the normal time for sleep, esp for solemn festive purposes, 2 the sitting up of persons at night, esp w a dead body before its burial, often attended with a degree of festivity

wakeᵛ = to remain in a normal condition of consciousness, as contr w **sleep.** [Distg fr **awake**ᵛ = to pass from sleep to the waking state, and fr **awaken**ᵗ = to cause another to awake] **waking**ⁿ — Fr *veiller*, Ger *wachen*

wakefulness = insomnia of short duration — Fr *veille*, Ger *Wachsamkeit*, *Schlaflosigkeit*

walking = the function of locomotion by means of feet or similar members, which are successively lifted and planted again in a new position, usually cephalad or ventrad to the old [Distg fr swimming, flying, revolving, and other modes of locomotion Sometimes used generically to include running, hopping, etc, sometimes distg fr these] — Fr *marche*, Ger *Gehen*

Wallerian degeneration = fatty degeneration of that portion of a transected neuron which does not include the latter's trophic center, (the cell-body) [The degeneration starts at the point of section and progresses toward the termini (of dendrite or axon)]

Waller's law = the law that if posterior roots of the spinal cord are cut on the central side of the ganglia, those portions of the (cut) nerves which lie within the spinal cord degenerate, while the peripheral portions of the same nerves (not being severed from the ganglia) do not degenerate (A Waller, 1850)

Wanderlust = a propensity to leave home or to move frequently from one locality to another [Ger Often observed in children, and characterizing a type of adults Cf **nomadism**] — Fr *manie ambulatoire*

want = 1 a condition, factor, or element absent from the present situation of a creature, the presence of which would promote his comfort or ameliorate his relations to the environment, 2 a mental attitude with more or less definite awareness of some lack, accompanied by an unpleasant feeling tone [Syn **need**] — Fr *besoin*, Ger (1) *Mangel*, (2) *Bedurfnis*

warm (or **warmth**) **sensation** = a quality of sensation due normally to stimulation by some object whose temperature is higher than the temperature of the skin or other part stimulated [Contr w **cold sensation**] — Fr *s de chaleur*, Ger *Warmeempfindung*

warm spot, warmth spot = a point or minute area on the skin which is peculiarly sensitive to stimuli above the body temperatures [Cf **paradoxical warmth** Contr w **cold spot** = sensitive to cold stimuli] — Fr *point de chaud*, Ger *Warmepunkt*

warm stimulus = a stimulus, normally one of a range of temperatures, which gives rise to a warm sensation [Besides the proper or adequate **warm stimulus**, certain substances such as mustard plasters, give rise to warm sensations regardless of their temperature]

warming up = a characteristic of the beginning of certain series of experiments on human subjects, in that these earlier attempts are irregular, slow, or inexact, even with practiced individuals, but lead at length to a succession of fairly uniform results [The preliminary trials are termed the **warming-up period** or process] — Fr *mise en train*, *échauffement*

warning signal = a preliminary stimulus or signal commonly used in response experiments to prepare the subject for prompt intentional response [Syn **ready signal**] — Fr *signal avertisseur*, Ger *Wahrnungszeichen*

Wassermann test = a serological test for syphilis which depends upon the fixation of complements in the blood and spinal fluid

watch test = a rough procedure for determining acuity of hearing, it consists in moving a watch gradually toward the observer's ear till he hears the ticking, and moving it away till the sound vanishes — Fr *t de la montre*

waterfall illusion = an illusion of motion, in which a steady visual fixation on any portion of a waterfall, when shifted to the surrounding scenery, causes this scenery to appear to move in the opposite (upward) direction [The term is applied to any laboratory device which produces a similar effect, e g model described by James (1890) The apparent motion of the road after one's car has stopped is an analogous phenomenon Cf **antirrheoscope**] — Fr *illusion de la chûte d'eau*

watt = a unit for measuring energy expended or work done per second, one watt being the power employed in doing one joule (10^7 ergs) of work in one second [This unit is most commonly used in the measurement of electrical work One watt equals one volt times one ampere In many measurements the **kilowatt** (=1000 watts) is the standard]

wave = a regular motion of particles to and fro, which is communicated to adjacent particles, so that the to-and-fro motion advances continuously [The advance may be either in the same direction as the first phase of the to and-fro motion (e g sound waves) or at right angles thereto (e g light waves), the wave-breadth or amplitude is measured by the extent of to-and-fro motion, the wave-length by the distance at any given instant of one crest to the next in the forward propagation] — Fr *onde*, Ger *Welle*

wave-length = the distance, at any instant, between two adjacent crests (or identical phases) of a series of waves which are advancing through a uniform medium [The **wave-length** varies inversely with the **vibration rate,** or number of waves passing any given point in one second or other standard period of time Cf **wave**] — Fr *longueur d'onde*, Ger *Wellenlange*

wave of excitation = a wave of chemical or electrochemical change propagated through living tissue and capable of arousing responses from effectors [Syn **propagated disturbance, nerve impulse**] — Fr *onde d'excitation*

weak = 1 having a low degree of intensity, 2 characterizing lack of bodily strength or instability of character [(1) is applied to sensations and stimuli of any sort, and to motor responses, preferably limited to stimuli, the sensations being termed **faint,** the movement **slight** Contr (1, 2) w **strong**] — Fr *faible*, Ger *schwach*

weakness sensation = a type of experience characterized by an abnormal intensity of the kinesthetic sensations accompanying slight muscular exertion — Fr *s de faiblesse*

weaning = (*psychoan*) a breaking up or dissolving of the transference situation, applied esp to the end phases of analysis [Cf **transference**] — Fr *sevrage*, Ger *Entwohnung*

weariness, see **fatigue** (2)

Weber's law = a formulation of the relation between changes in stimulus-intensity and perception, devised by E. H. Weber, and expressed as follows. The just perceptible difference of sensation occurs when the stimulus is increased (or decreased) by a certain proportion of itself, that proportion being constant for any given sense. [If ΔR is the change in the stimulus corresponding to a just perceptible difference of intensity, and R is the value of the stimulus, then **Weber's law** may be written $\Delta R/R$ = constant. The name was suggested by Fechner, who extended the law to include *imperceptible increases* of sensation as well. Sometimes called **Weber-Fechner law**. Cf. **Fechner's law, psychophysical law**.]

Wedensky inhibition, Wedensky effect = the principle that with a nerve-muscle preparation a critical frequency for stimulating the nerve can be found, at which rate the muscle responds with a very rapid series of twitches (e.g. 200 per second), whereas if the rate of stimulation be somewhat *increased* the muscle responds with a single contraction followed by complete relaxation. [This phenomenon is of interest in connection with the theory of neuromuscular inhibition by interference or *overcrowding* of nerve pulsations.]

weight = 1. (*phys.*) the force with which a given mass is attracted toward the center of the earth; 2. a body of determined mass, used in experiments on the pressure sense, kinesthetic sense, or lifting; 3. the relative importance of a given datum or result, as compared with others in the same set of experiments or category of data. [Cf. **weighting**.] — Fr. *poids*, Ger. *Gewicht*.

weight experiment = a psychophysical experiment in which the observer judges small differences between freely lifted weights (Titchener). — Fr. *expérience de pesanteur*.

weight holders/Fechner, see **Fechner weight holders**.

weight sensation = the sensation stimulated by the active supporting or lifting of a weight. — Fr. *s. de poids*.

weight sense, see **kinesthesia**. — Fr. *sens de la pesanteur*.

weighted score = (*statist.*) a score to which special value or weight is given because of its significance or relative importance as compared with the other items scored. — Fr. *note pondérée*.

weighting = the assignment of definite proportional values to the various data, results, etc., in a set of experiments, tests, or statistics, in accordance with their assumed or determined value in relation to the other data, etc., in the set or group. — Fr. *attribuer des poids*.

weights/lifting = a type of apparatus developed for the determination of liminal differences in kinesthetic appreciation of weight; they vary greatly in form, but generally embody the following principles: (*a*) convenient size for grasping, (*b*) tactual indistinguishability, (*c*) material relatively unaffected by moisture, and (*d*) resistance of material to temperature changes. [Frequently called **lifted weights**. Cf. **cartridge weights, Jastrow cylinders**.] — Fr. *soulevcur de poids*.

weights/Scripture, see **Scripture weights**.

Weismannism = the theory of evolution, advocated by August Weismann as a result of his experiments, which denies the heritability of acquired characters, and assumes the continuity of the germ-plasm through successive generations.

welfare work = supervision of employees' health, safety, recreation, education, training, employment, pensions, cafeterias, relations with shop committees, etc. — Fr. *oeuvres de bien-être*.

well-being = a condition of general good health and prosperity experienced by an individual, or the conscious state (marked by a pleasant feeling tone) which accompanies this condition. — Fr. *bien-être*, Ger. *Wohlsein*.

Wernicke/area of = 1. an area of fibers forming the extreme posterior segment of the internal capsule; 2. a cerebral area comprising parts of the supramarginal angular and first and second temporal gyri, on the left side in a right handed person. [Identified by Wernicke as the cortical center for understanding language heard.]

wetness sensation = a quality of tactual experiences, normally aroused by the application of some moist surface to the individual's skin, or by the application of cold pressure. — Fr. *s. d'humidité*, Ger. *Nassempfindung*.

Wharton's duct = the duct of the submaxillary gland.

Wheatstone bridge = an electrical circuit (often built as a special instrument) for the equating of resistance; it is essentially a direct or proportional division of the electrical flow with a connection between the two arms of this division; in this connection or bridge is inserted a galvanometer; when the resistance of both arms is so adjusted as to be equal, there is no flow of electricity across the bridge; this equating of resistance in either arm gives a direct or proportional reading of ohmic resistance. [Used in investigations of the **galvanic skin response** or any other measurement of electrical resistance. This circuit was invented by Christie (1833).] — Fr. *pont de Wh.*

wheel-movement, see **torsional movement, torsion.**

whirl sensation, whirling = an experience characterized by a sense of circular movement of the head, or of rotation of the entire objective world about the head, due to persistent stimulation of the semicirculars by stimulants, by rotation of the head, etc., and at times by stimulation from nystagmic movements of the eyes. — Fr. *s. de rotation*.

whispering, see **hypophonia**. — Fr. *chuchotement*, Ger. *Flüstern*.

whistle/Galton, see **Galton whistle.** — Fr. *sifflet de G.*

white = a visual sensation evoked by stimulation of the retina by a mixture of radiant energies of different wave-lengths (usually of high intensity), approximating in physiological action that which is characteristic of normal daylight, or of the black-body radiation at a color temperature of about 5400 degrees, Kelvin. [It constitutes the upper limit of the gray or achromatic series of colors. The complement, or antagonist, of **black**.] **white**[a]. — Fr. *blanc*, Ger. *weiss*.

white matter = the parts of the brain and spinal cord which show whitish or very light gray color due to the presence of myelinated nerve fibers; it consists of nerve fibers without their cell bodies. [Distg. fr. **gray matter**, composed chiefly of cell-bodies massed together with their attached fibers.] — Fr. *substance blanche*.

wholeⁿ = that which, though possessed of parts or members or distinguishable aspects, yet possesses such character as a unit that it may be treated without reference to the parts, members, or aspects [Syn **totality, entirety** Contr w **part** = a constituent or subgroup of such a complex unit, which has properties or characters not referable to the whole, and w **member** = a constituent of such a complex unit, none of whose characters are independent of their relation to the whole] **whole**ᵃ, **entire**ᵃ — Fr *l'ensemble*, Ger *Ganzes, Ganzheit*

whole and part learning = a generic term comprising the two alternative methods of memorizing material or acquiring habits, either by repetition of the entire material or performance, or by repetition of some portion till it is learned and then proceeding to the next portion, etc [The term is applied to the problem as to which method is the more efficient In recent experimental work several intermediary forms of practice have been employed Syn **part and whole learning**] — Fr *apprentissage (acquisition) global (fractionné), acquisition du tout et des parties*, Ger *Ganz- und Teil-Lernmethode*

whole-part test, see **part-whole test**

whole tone = one of the larger steps in a musical scale, roughly equivalent to two semitones [In the diatonic scale, the whole tones are of two kinds, major and minor the major tone has a ratio of 8 9, the minor tone a ratio of 9 10 In the tempered scale a whole tone is exactly equal to two semitones, and has a ratio of 1 2^{1/6} Cf **scale**, and Table VII] — Ger *Ganzton*

wild = characterizing an animal in its native habitat and condition, uninfluenced by the effects of human training or domination [Contr w **domesticated, tame, or trained**] — Fr *sauvage*, Ger *wild*

will = 1 the function or group of functions concerned in delayed conscious response, 2 conscious decision to act or undertake a course of action, 3 the self in action, 4 (*hist*) as employed by Schopenhauer and many others, the totality of irrational and emotional impulses, usually regarded as having primacy over intellect [Syn **volition**] **will**ᵛ, **will**ᵃ, **volitional**ᵃ, **voluntary**ᵃ — Fr *volonté, vouloir*ᵛ, Ger *Wille*

will/free, see **free-will doctrine**

will profile = a psychograph or diagram showing the scores made by an individual in a considerable number of tests purporting to measure will and temperament — Fr *profil de volonté*

will-temperament test = a series of tests devised by June E Downey for the purpose of bringing to light qualitative differences in certain aspects of volition and temperament [The Downey tests are based chiefly upon handwriting, which is executed under various instructions to write fast, slow, disguised, with eyes closed, etc The traits to be brought to light are such as speed of reaction, decisiveness and forcefulness, carefulness, resistance to opposition] — Fr *t de volonté-tempérament*

Willis/circle of = a ring of arteries at the base of the brain

window/oval = an oval opening in the wall of the bony labyrinth in the vestibular region, it abuts upon the middle ear, and is closed by the base of the stapes, which is attached by an annular ligament [The vibratory movements of the stapes are communicated to the perilymph of the scala vestibuli, and thereupon affect the sensory endings within the cochlear duct Syn **fenestra ovalis, fenestra vestibuli**] — Fr *fenêtre ovale*, Ger *ovales Fenster*

window/round = a round opening, situated somewhat below and behind the oval window, in the vestibular wall of the bony labyrinth [It is closed by a flexible membrane, the secondary tympanic membrane, which separates the scala tympani from the middle ear and takes up the alternating pressures communicated to the perilymph by the movements of the stapes Syn **fenestra rotunda, fenestra cochleae**] — Fr *fenêtre ronde*, Ger *rundes Fenster*

windpipe, see **trachea**

winking, wink reflex = 1 closure of the eyelid, stimulated by drying of the cornea, 2 syn for **corneal reflex** [(1) is a normal reflex, mediated by V (sensory) to VII (motor) cranial nerves Syn (1) **eyelid closure, eye-wink**] — Ger *Blinzeln, Blinzelreflex*

wisdom = reflective knowledge, esp concerning the practical conduct of life — Fr *sagesse*, Ger *Weisheit, Klugheit*

wish = 1 a pictured or otherwise represented situation which is tinged with feeling and accompanied by the belief that the situation, if attained, would satisfy a present want, 2 (*psychoan*) the motive force which determines the flow of dynamic mental processes to seek discharge of their tension, without necessarily implying awareness of the motivation **wish**ᵛ. — Fr *desir*, Ger *Wunsch*

wish fulfillment = (*psychoan*) a fundamental striving of mental processes for relief from psychic tension [A definite consummation appears in the form of a fulfilled wish] — Fr *réalisation du désir*

wit = 1 an unexpected and ingenious association of ideas, presented usually in spoken language, which causes surprise and pleasant excitement in the hearer unless he is the one against whom it is directed, 2 ready appreciation of any novel complex situation [Syn (1) **witticism** Distg (1) fr **humor**, a more subjective type] **witty**ᵃ (1) — Fr *esprit*, Ger *Witz*

witchcraft = a magical power attributed to certain individuals, or their exercise of this power [Usually traced, in folklore, to possession or control of the individual by evil spirits Cf **sorcery**] **witch**ⁿᵖ (female), **wizard**ⁿᵖ (male) — Fr *sorcellerie*, Ger *Hexerei*

withdrawing response = a response which retracts a bodily member or the entire organism from the stimulus or situation that induced it [Syn **negative (or abient) response, nociceptive reflex, defense reaction, avoiding response** Contr w **approaching (or positive), or adient response**] — Fr *réaction de recul*

witnessᵛ = to observe an occurrence of any sort [Usually, but not necessarily, limited to visual observation] **witness**ⁿᵖ (**eye-witness**ⁿᵖ) — Fr *attester, rendre témoignage, témoin*ⁿᵖ, Ger *bezeugen, zeugen, beobachten*

womb, see **uterus**

wonder = an emotional condition elicited usually by objects which are novel, seemingly important, and intellectually baffling [Distg fr **astonishment**, which is stronger, and fr **amazement**, much stronger] **wonder**ᵛ (also = to experience doubt) — Fr *étonnement*, Ger *Staunen*

word = the smallest unit in vocal, graphic, or gestural language, signifying a single idea

word-blindness, see **alexia** — Fr *cécité verbale*

word-building test = a form of mental test in which the testee is presented with a number of letters, as *a*, *e*, *o*, *b*, *m*, *t*, and asked to form from them as many different words as possible within a time limit of (e g) five minutes —Fr *t de construction des mots*

word-deafness = a form of aphasia characterized by inability to understand spoken words [Cf **aphasia**] — Fr *surdité verbale*, Ger *Worttaubheit*

word-reaction (or -response) time = the interval between the presentation of a stimulus word and the moment of beginning the utterance of the response word

word salad = a jumble of words apt to be characteristic of the verbigeration of catatonics [A translation of Forel's (Ger) term, *Wortsalat*] — Fr *salade de mots*

word-span test = a mental test essentially similar to the **digit-span test**, save that words are used instead of digits — Fr *t de mémoire immédiate des mots*

work = 1 (*phys*) the production of motion in a body by the action of a force against a resistance, 2 (*physiol*) the expenditure of energy in muscular or mental performance, 3 (*psychol*) production through muscular or psychological activity of physical or psychological results, e g a weight lifted, a poem written [The erg is the **work** (1) performed by a force of one dyne in moving the body through one centimeter The joule is 10⁷ ergs, and the watt-hour is 3 6×10¹⁰ ergs The physiological effects of prolonged **work** (2) are indicated by **fatigue**] — Fr *travail*, Ger *Arbeit*

work curve = a plotted record of the amount of muscular or mental performance in successive time periods of uniform length — Fr *courbe de travail*, Ger *Arbeitskurve*

work decrement, see **decrement/work**

work-limit method = a method of arranging material and instructions, such that every testee shall perform the same task, i e cover the same material [Syn **unit-task tests** Contr w **time-limit method**, in which the time is constant, but the material covered varies with the testee]

world/external, see **external world**

world-view = any theory regarding the nature of the universe or of phenomena in general and their interrelations — Ger *Weltanschauung*

worry = an emotional attitude characterized by unpleasantness, either depressing or exciting [This attitude is set up by some situation whose solution or outcome causes indecision or conflict, e g worry over debts] **worry**ᵛ, **worried**ᵃ — Fr *souci*, Ger *Sorge*

worship = 1 (*relig*) the act of offering honor and adoration to a deity, 2 (*relig*) the system of practices which constitute a person's relation with his god or gods [(2) includes not only adoration but also prayer, sacrifice, etc] — Fr (1) *adoration*, (2) *culte*, Ger (1) *Anbetung*, (2) *Kultus*

worth = the subjective appreciation, or measure, of the importance of a given datum or factor of any sort, in relation to other data or factors of the same class [Syn **value**, a broader term, including also objective importance, as measured on a quantitative or numerical scale] — Fr *valeur*, Ger *Wert*

wrath, see **anger**

Wrisberg/cartilages of, see **cuneiform cartilages**

Wrisberg/nerve of = the glossopalatine nerve, usually considered to be part of the facial nerve

writer's cramp = a functional spasm which affects the writing process by causing an abnormal contraction or paralysis of some of the muscles employed in writing [Syn **graphospasm**] — Fr *crampe des écrivains*, Ger *Schreibkrampf*

writing = the act of recording ideas in symbolic form, esp by tracing letters and words on paper, etc , in more or less permanent form with a pen or other recording device **write**ᵛ — Fr *écriture*, Ger *Schrift*

writing accent = the peculiar characteristics of an individual's handwriting which also appear in the handwriting of other persons of the same nationality [By analogy with **accent** in speech, which denotes a characteristic manner of pronunciation] — Fr *accent caractéristique de l'écriture*

writing angle, angle of writing = the angle between the downstroke and the base-line of writing [Very slanting writing = under 45°, normal slanting writing = about 60°, vertical writing = about 90°, backhand writing = over 90°]

writing tremor = quivering, shaky movements in writing, which arise from a variety of causes such as lapse of muscular control in old age, alcoholic intoxication, or writer's cramp [Occurs also in paralysis agitans, paresis, multiple sclerosis, etc , it is not possible as yet to use varieties of tremor in differential diagnosis] — Fr *tremblement scriptural*

Wundt gravity phonometer = an apparatus for determining the difference limens for intensity of sound, it consists of a steel ball, held in an electromagnetic device which can be fixed at any desired height above a plate of hard wood (ebony), when released, the ball produces a sound whose objective intensity (*Schallstärke*) is roughly proportional to (height of fall) × (weight of ball)

Wundt illusion = an illusion, of distorted perception of visual form, observed when a number of lines radiating from two points on the margins above and below are crossed by two parallel lines on opposite sides of the junction of the radiating lines and equidistant from it, the parallel lines appearing closer together in the neighborhood of the center of the figure [Distg fr **Hering illusion**, in which lines radiate *from* the center and the parallel lines between them appear to bow *outward* at the center]

Wundt sound pendulum = an apparatus devised by W Wundt for determining the difference threshold for sound, it consists of two pendulums which are so supported that their bobs, when at rest, just touch the opposite faces of an ebony block, when raised through any desired arc and released, each bob strikes the block with a force proportional to its height of fall [By varying the height, two intensities of sound-stimuli can be produced successively and compared In some models only one pendulum is used] — Ger *Wundtsches Schallpendel*

Wundt's principles of emotional expression = three principles formulated by Wundt (1900) as a reformulation of **Darwin's principles** (1) the principle of *direct innervation*, (2) the principle of association of *analogous sensations*, (3) the principle of *relation of movements to images*

Würzburg school = the school of **imageless thought**, directed by O Kulpe at Wurzburg in 1901–9

X

X-O tests = a series of tests for investigating emotional traits and attitudes, in which the testee responds by crossing items that are deemed wrong, or are worried about, or are liked, and circling those that are deemed most wrong, or are most worried about, or are most liked (S L Pressey, 1919) [Later (1933) developed into a series of 4 **interest-attitude** tests (including crossing out items that the testee is interested in) to determine emotional age]

X-rays = transverse electromagnetic vibrations produced by impact of cathode rays on some kind of matter, they are propagated in straight lines at the speed of light, have an average wave-length of 1×10^{-8} cm , and possess many properties similar to ordinary light, but are far more penetrating [Syn **Rontgen rays**]

xanthic[a] = syn for **yellowish**

xanthogenic radiations = light stimuli which normally give rise to the experience of yellow

xanthopsia = a condition in which objects looked at appear abnormally yellow [It sometimes accompanies jaundice, and occurs after the ingestion of certain drugs, notably santonin]

xenoglossis = (*psych res*) the understanding, reading, writing and pronunciation by a sensitive of a *real* language which it is alleged she has never learned [A form of **cryptesthesia** Distg fr **glossolalia** = a pseudolanguage fabricated by sensitives or automatists, or observed in certain pathological types]

xenophobia = morbid fear of strangers

Y

yawning = a reflex, usually induced by bodily fatigue, consisting of an automatic opening of the lower jaw and deep inspiration — Fr *baillement*, Ger *Gahnen*

yellow = 1 a visual sensation typically evoked by stimulation of the normal retina with radiation of wave-length approximately 575 5 millimicrons (mμ), 2 any color manifesting a hue predominantly similar to that of the typical yellow [The complement of **blue**] **xanthic**[a], **yellow**[a] — Fr *jaune*, Ger *gelb*

yellow spot, see **macula lutea.** — Fr *tache jaune*, *gelber Fleck*

yellow-sighted = characterizing a heightened color sensitivity for yellow, or a tendency to see all objects tinged with yellow, [The phenomenon occurs (1) in individuals who possess a peculiar pigmentation of certain tissues of the eye, (2) in normal individuals following blue-adaptation, or (3) following the use of certain drugs] — Fr *hypersensibilite au jaune*

Yerkes-Bridges scale = a series of twenty tests, nineteen of them from the Binet scale, made available in 1915 by R M Yerkes, J W Bridges, and Rose Hardwick [It differs from the Binet scale in being scored in points instead of ages, though these points are afterwards assigned age standards] — Fr *échelle de Y -B*

Yoga = a Hindu system of ascetic philosophy and practice which involves meditation and contemplation, and culminates in a trance regarded as union with the Supreme Being **Yogi**[n,p]

Young-Helmholtz theory = a theory which seeks to explain the phenomena of color vision on the assumption of three independent component mechanisms (or processes) in the retina or its attached nervous apparatus, these mechanisms, when separately aroused (chiefly by radiant energy of corresponding regions in the spectrum) giving rise to the colors red, green, and blue, respectively, all other colors, including yellow, purple, and white or gray, being due to various combinations of the three component activities [Cf **three-component theory**]

youth = the period of adolescence in the human being, i e the period between puberty and maturity [Sometimes extended to include late childhood, or the prepubertal period] **youthful**[a] = characteristic of the period or the individual, **juvenile**[a] = pert to the period — Fr *jeunesse*, Ger *Jugend, Jugendzeit*

Z

zee (or z) chart = (*statist*) a time chart consisting of three curves (1) the original amount, i e sales or production of other data, per each successive unit of time, (2) a cumulative curve which gives an amount at each point, i e the sum of the ordinates of the preceding curve, and (3) a total curve each point of which gives the total amount for a preceding interval of time, which is the same interval as that covered by the original curve, e g 52 weeks, 24 hours, or other natural period [The curves usually so cross as to yield a Z-shaped picture The ordinate for the cumulative and total curves is the same, but is different from that for the original data curve] — Fr *graphique de z*

Zeising's principle, see **golden section.**

zenith = 1 the point or location directly above the observer's head, 2 the highest point in a given system of phenomena [Contr w **nadir**] — Ger *Scheitelpunkt*

Zeno's arrow = an argument against the possibility of motion if the units of space and time are discrete anything in one and the same place is at rest, therefore an arrow is at rest every moment, and hence throughout its whole flight — Fr *flèche de Z*

zero/developmental, see **developmental zero.** — Ger *Nullpunkt* = zero

zero/physiological (or **psychological**) = the temperature of the skin at which thermal experiences are not aroused [It usually lies for the exposed areas of the skin at about 33° C , but it varies considerably for different parts of the body, e g inside mouth, 37° C , ear lobe, 28° C]

Zielvorstellung = idea of end, goal, or purpose (Ach) [Ger]

zoetrope, zootrope, see **stroboscope**

Zollner illusion = an illusion of visual space perception, in which a series of parallel lines appear to slant alternately in opposite directions, when the alternate lines in the series are crossed by a number of short lines at an (acute) angle, the cross-line in one row slanting one way, in the next the other way, etc [One theory explains the effect as an exaggeration of the apparent

size of the acute angles and a pronounced distortion in the direction of the parallel lines] — Ger *Zollnersche Tauschung*

zone = 1 a belt or strip of surface, 2 (*neurol*) a region of the brain, body, or retina — Ger *Zone, Gurtel*

zone/reflexogenous, /aphasia, /apraxia, see **reflexogenous zones,** etc

zones/chromatic (or **color**) = regions of the **visual field** which have different characteristics as to chromatic response [For most individuals, the central portion of the field shows full chromatic response, while red and green responses disappear at a moderately peripheral position, and blue and yellow fail in the extreme periphery The exact boundaries of any zone depend upon the extent, intensity, and chromatic power of the stimuli used, they vary also with the individual, and with the technique employed Cf **perimetry**]

zones/erogenous, see **erogenous zones**

zones/retinal = zones of the retina, optically corresponding to those of the visual field, and similarly differentiated according to chromatic or other function [Cf **zones/chromatic**]

zonule of Zinn = the set of radial fibrous bands which extend from the ciliary body to the equator of the lens of the eye, constituting its suspensory ligament

Zooid = 1 a component member of a colonial aggregate of connected animal forms, as in Hydroids and Bryozoa, 2 a motile stage in those species which have alternation of generations (a Medusa or Medusoid), 3 a motile stage in the early development of an animal, 4 a **spermatozoon**

zoology = the branch of biology which deals with animals [Distg fr **botany** = the study of plants] (Pron zo-, not zoo-; 4 syll) **zoological**[a]

zoophilism, zoophily = 1 love of animals, 2 (*psychoan*) an abnormal devotion to animals

zoophobia = morbid fear of animals

zoophyte = an animal which superficially resembles a plant, e g hydroid, sponge, coral

zoopsia = hallucinations in which the patient imagines that he sees animals

zygomatic area = pert to or located in the area on the upper part of either cheek near the prominent cheek bone — Ger *Jochbein-*

zygomatic reflex = lateral movements of the jaw, elicited by tapping the **zygomatic area** — Ger *Jochreflex* [Mediated by V (sensory) to V (motor) cranial nerves]

zygote = a cell formed by the union of two gametes [Cf **gamete**]

APPENDIX

APPENDIX

TABLES

TABLE I

COLOR-VISION TESTS

1. **Matching Tests**
   Holmgren wool-sorting
   Jennings self-recording
   Westcott lantern slide for group testing
   Nela tests

2. **Confusion Tests**
   Stilling Pseudo-isochromatische Tafeln
   Ishihara color-perception test
   Podesta Wandtafeln
   Edridge-Green cards
   Nagel Tafeln

3. **Practical Tests**
   Edridge-Green lantern
   Williams lantern
   Thomson lantern
   Scripture color sense teste

4. **Laboratory Research**
   Nagel Anomaloskop
   von Hess Farbensinnprufer
   von Hess Differential-Pupilloskop

TABLE II

COMPLEXES

A LIST OF THE FUNDAMENTAL TYPES

castration complex
Edipus (Œdipus) complex (syn mother-fixating, mother-complex)
Electra complex (syn father-fixation, father-complex, female Edipus complex)
inferiority complex
Jehovah complex (syn God-complex)
nuclear complex

TABLE III

DEXTRALITY, OR ONE-SIDED DOMINANCE

(Including some terms not in use, but formed according to correct etymology and by analogy with accepted conventions)

A GENERAL

Noun	Adj and Personal Noun	Meaning Dominance of
dextrality	**dextral**	motor or sensory function on one side

B SIDE OF MEMBER

Noun	Adj and Personal Noun	Meaning Dominance of
sidedness	**(sided)**	one side
unidextrality	**unidextral**	one side, or hand, etc , over the other
(one-sidedness)	**(one-sided)**	one side (ambig)
dextrodextrality	**dextrodextral**	right side, or hand, etc , over left
right-sidedness	**right-sided**	right side over left
sinistrodextrality	**sinistrodextral**	left side, or hand, etc , over right
sinistrality	**sinistral**	left side, or hand, etc , over right
left-sidedness	**left-sided**	left side over right
ambidextrality	**ambidextral, -ous**	neither side, hand, etc over the other
(both-sidedness)	**(both-sided)**	neither side over the other

C. HANDS

Noun	Adj and Personal Noun	Meaning Dominance of
handedness	**one-handed** (ambig)	one hand (generic term)
manudextrality	**manudextral**	one hand (generic term)

Noun	Adj and Personal Noun	Meaning Dominance of
unimanuality	unimanual	one hand over the other
[unimanual and bimanual generally mean "(operations) performed by one hand alone," and "by two hands together" respectively]		
right-handedness	right-handed	right hand over left
dextromanuality	dextromanual	right hand over left
left-handedness	left-handed	left hand over right
sinistromanuality	sinistromanual	left hand over right
ambimanuality	ambimanual	neither hand over the other
(both-handedness)	(both-handed)	neither hand over the other (ambig)

D. FOOT

pedidextrality	pedidextral	one foot over the other
(footedness)	(footed)	one foot over the other (ambig)
unipedality	unipedal	one foot over the other
dextropedality	dextropedal	right foot over left
right-footedness	right-footed	right foot over left

— and other terms, formed like the **-manual** and **-handed** compounds

E. EYE

oculodextrality	oculodextral	one eye over the other
eyedness	eyed (ambig)	one eye over the other
(uniocularity)	(uniocular)	one eye over the other (ambig)
right-eyedness	right-eyed	right eye over left
oculodextrality	oculodextral	right eye over left
ambocularity	ambocular	neither eye over the other

— and other terms, formed like the **-manual** and **-handed** compounds

F. EAR

auridextrality	auridextral	one ear over the other
earedness	eared (ambig)	one ear over the other
(uniaurality)	(uniaural)	one ear over the other (ambig)

— **right-earedness, dextraurality, ambaurality,** and other terms, formed like the **-manual** and **-handed** compounds

Refer to
Downey, J E, *Amer J Psychol*, 1927, **38**, 317–367
Jones, E, *Psychol Bull*, 1909, **6**, 130–132
Rife, J M, *Psychol Rev*, 1922, **29**, 474–480

Table IV

ERRORS

OCCURRING IN EXPERIMENTAL INVESTIGATION

1. **Errors in technique**
   Errors of planning
   Errors of instrumental set-up
   Systematic errors of operation
   (sampling errors, faulty instructions to observers, incomplete performance, etc)
   Incidental errors of observation
   (disarrangement or failure of apparatus, secondary cues, etc)

2. **Instrumental errors**
   Constant error
   Variable error

3. **Observational errors** (in psychophysics)
   Temporal error
   Spatial error
   Errors of recognition
   Errors of expectation
   Errors of reference
   Stimulus error

4. **Errors in treatment of data**
   Errors of perception (reading) or recording
   Errors of computation, etc
   Motivated errors (= errors of bias)
   Errors of contravention

TABLES

TABLE V

GLANDS FREQUENTLY TREATED IN PSYCHOLOGICAL LITERATURE

(For complete list of several hundred glands found in the human body, see *Anatomical Names*, by A C Eycleshymer)

NAME	LOCATION (*in or near*)	DUCT OR ENDOCRINE [1]
adrenal (= suprarenal)	retroperitoneal region	E
apical	tongue	D
areolar	nipple (f)	D
bulbocavernous	penis (m)	D
cutaneous	skin	D
duodenal	duodenum	D
gastric	stomach	D
Harder's	eye	D
intestinal	intestines	D, E
lacrimal, lachrymal (tear)	eye region	D
lingual (= apical)		
mammary (milk)	breast (f)	D
mucous (= muciparous)	mucous membrane	D
ovary	pelvis (f)	D, E
pancreas	near intestine	D, E
parathyroid	embedded in thyroid	E
parotid (saliva)	in front of ear	D
pineal (= epiphysis cerebri)	caudal roof of diencephalon	E
pituitary (= hypophysis cerebri)	under cerebral hemispheres	E
prostate	bladder (m)	D
salivary	mouth	D
sebaceous	skin	D
sex (= testes, ovary)	genitals	D, E
sublingual (saliva)	under tongue	D
submaxillary (saliva)	lower jaw	D
sudoriparous (= sudoriferous, sweat)	skin	D
suprarenal (= adrenal)		
tarsoconjunctival	eyelids	D
testes (semen)	scrotum (m)	D, E
thymus	cervical region, thorax	
thyroid	cervical region	E
vulvovaginal (= vestibular)	genitals (f)	D

PROPER NAME, ALTERNATIVES	EQUIVALENT
Bartholin's (Tiedemann's)	vulvovaginal
Blandin's (Nuhn's)	apical
Boerhaave's	sudoriferous
Bowman's	in olfactory region
Bruch's	tarsoconjunctival
Brunner's	duodenal
Cowper's	bulbocavernous
Duverney's	vulvovaginal
Gley's (Sandstroem's)	parathyroid
Henle's (= meibomian)	conjunctiva of eyelids

[1] Typical classification Endocrinal function may be present, even when not indicated

TABLES

Table VI

LOGICAL FALLACIES IN REASONING AND INTERPRETATION

(Any classification of fallacies is more or less arbitrary The following list, based on Creighton, presents a convenient scheme Historical names often apply to overlapping sorts)

A MISTAKES IN REASONING

I Formal

1 Four terms
2 Undistributed middle
3 Illicit major
4 Illicit minor
5 Negative premises
6 Denying the antecedent
7 Affirming the consequent
8 Imperfect disjunction

II Material

(*a*) Equivocation
1 Ambiguous middle
2 Composition
3 Division
4 Accident
5 Dilemmatic fallacy
6 False analogy, or Figure of speech

(*b*) Presumption
1 Begging the question and Question-begging epithets
2 Complex question
3 Irrelevant conclusion
i Argumentum ad hominem, ad populum, ad ignorantiam, ad verecundiam, ad misericordiam
ii Fallacy of objections
4 Non sequitur, or Post hoc ergo propter hoc, or False cause
5 Hasty generalization
6 Consequent
7 Many questions, or Complex questions

B MISTAKES IN INTERPRETING DATA

1 Improper observation, or conversion
2 Ambiguous sentence structure, or Amphiboly
3 Accent, or Emphasis

Table VII

MUSICAL INTERVALS

Name [1]	Musical Notation [1]	Frequency Ratio	Magnitude [2]	
Unison, prime	**C -C**	1 1	0 00	
Cent		1730 1731	0 01	
Comma, comma of Didymus		80 81	0 22	
Pythagorean comma		73 74	0 24	
Enharmonic or great diesis		125 128	0 42	
Chromatic or small semitone, augmented unison	**C -C#**	24 25	0 70	minor seconds
Pythagorean limma, hemitone	E -F	243 256	0 90	minor seconds
Tempered semitone, tempered minor second	**C** -*C#*	$1\ 2^{1/12}$	1 00	minor seconds
Diatonic semitone, true minor second	**E -F**	15 16	1 12	minor seconds
True minor tone, grave major second	**D -E**	9 10	1 82	major seconds
Tempered major second	**C** -*D*	$1\ 2^{2/12}$	2 00	major seconds
True major tone or major second, Pythagorean tone or second	**C -D**	8 9	2 04	major seconds
Diminished minor third	**A#-C′**	225 256	2 24	major seconds

[1] Names and tonal letters in bold-face indicate tones in the Diatonic and Chromatic scales, those in italic, tones in the Tempered scale, tonal letters in light face with a period beneath indicate tones in the Pythagorean scale See scale

[2] Measured in tempered semitones and hundredth parts (i e musical *Cents*), e g comma of Didymus is 22/100 of a tempered semitone

Name	Musical Notation	Frequency Ratio	Magnitude	Group
Augmented second	C -D#	64 75	2 74	minor thirds
Pythagorean minor third	D -F	27 32	2 94	minor thirds
Tempered minor third	*C -D#*	1 $2^{3/12}$	3 00	minor thirds
True minor third	E -G	5 6	3 16	minor thirds
True major third	C -E	4 5	3 86	major thirds
Tempered major third	*C -E*	1 $2^{4/12}$	4 00	major thirds
Pythagorean major third	C -E	64 81	4 08	major thirds
Diminished fourth	C#-F	25 32	4 28	major thirds
Perfect fourth; Pythagorean fourth	C -F	3 4	4 98	fourths
Tempered fourth	*C -F*	1 $2^{5/12}$	5 00	fourths
Acute fourth	C#-F#	20 27	5 20	fourths
Augmented fourth, tritone	C -F#	32 45	5 90	tritone group
Tempered tritone	*C -F#*	1 $2^{6/12}$	6 00	tritone group
Diminished fifth	D -Ab	45 64	6 10	tritone group
Grave fifth	D -A	27 40	6 80	fifths
Tempered fifth	*C -G*	1 $2^{7/12}$	7 00	fifths
Perfect fifth, Pythagorean fifth	C -G	2 3	7 02	fifths
Augmented fifth	C -G#	16 25	7 72	minor sixths
Pythagorean minor sixth	E -C′	81 128	7 92	minor sixths
Tempered minor sixth	*C -Ab*	1 $2^{8/12}$	8 00	minor sixths
True minor sixth	C -Ab	5 8	8 14	minor sixths
True major sixth	C -A	3 5	8 84	major sixths
Tempered major sixth	*C -A*	1 $2^{9/12}$	9 00	major sixths
Pythagorean major sixth	C -A	16 27	9 06	major sixths
Diminished seventh	D#-C′	75 128	9 26	major sixths
Augmented sixth	C -A#	128 225	9 76	minor sevenths
True minor seventh, Pythagorean minor seventh	D -C′	9 16	9 96	minor sevenths
Tempered minor seventh	*C -Bb*	1 $2^{10/12}$	10 00	minor sevenths
Acute minor seventh	C -Bb	5 9	10 18	minor sevenths
True major seventh	C -B	8 15	10 88	major sevenths
Tempered major seventh	*C -B*	1 $2^{11/12}$	11 00	major sevenths
Pythagorean major seventh	C -B	128 243	11 10	major sevenths
Diminished octave	C#-C′	25 48	11 29	major sevenths
Octave, perfect octave	C -C′	1 2	12 00	

Table VIII

PHOBIAS

A LIST OF THE MOST COMMON TYPES

-phobia	Dread of	-phobia	Dread of
acro-	high places	**nycto-**	darkness, night
agora-	open places	**patho- (noso-)**	disease, suffering
algo-	pain	**peccato-**	sinning
astra- (astrapo-)	thunder and lightning	**phono-**	speaking aloud
claustro-	closed (confined) places	**photo-**	strong light [1]
copro-	excreta	**sito-**	eating
hemato-	sight of blood	**tapho-**	being buried alive
hydro-	water	**thanato-**	death
lalo- (glosso-)	speaking	**toxo-**	being poisoned
myso-	dirt, contamination	**xeno-**	strangers
necro-	dead bodies	**zoo-**	animals

[1] Distinguished from hyperphoto-esthesia (normal)

A list of 135 phobias is given by G Stanley Hall, in *Amer J Psychol*, 1914, 25, 171–172

Table IX

PREFIXES AND SUFFIXES

COMMONLY USED IN SCIENTIFIC TERMS

[N B prefixes ending in *o-* generally drop the *o* before vowels and *h* In forming new scientific terms the *o-* is often retained]

	Language	Meaning	Example	Opposite
a-	Grk	without, deprived of	achromatic	
		= **an-** before vowel or **h**	anhedonic	
ab-	Lat	away from	aberration	**ad-**
		= **abs-** before **c, q, t**	abstract	
acro-	Grk	high, exaggerated, extremities (anat)	acro-esthesia	
ad-	Lat	toward, to, = **ac-, af-, ag-, al-, ap-, as-,** before these consonants	adient	**ab-**
-ad	Lat	toward	dorsad	
-al	Lat	pertaining to, accent antepenult if any	dorsal sagittal	
ambi-	Lat	both, either	ambidextral, -ous	
amphi-	Grk	around, all about	amphibia	
ana-	Grk	up, forward, constructive	anabolism	**cata-**
ante-	Lat (A S)	before (in time)	antemeridian	**post-**
antero-	Lat	in front of	anterograde	**postero-**
anti-	Grk, Lat (A S)	opposed to or opposite to	antibody	**pro-**
		= **ant-** before vowel or **h**	antagonist	
apo-	Grk	separation, derivation from	apoplexy	
auto-	Grk	self	autonomic	**allo-**
bi-	Lat	two, two-fold	bisexual	**uni-, multi-**
		= **bin-** before vowel	binocular	
brachy-	Grk	short	brachycephalic	**dolicho-**
cata- (kata-)	Grk	downward destructive	catabolism	**ana-**
centi-	Lat	hundred, usually 1/100	centigram	
circum-	Lat	around	circumvallate	
con-	Lat	with, affiliated, = **col-** before **l**, **cor-** before **r**, **com-** before **m, p**, **co-** before vowel, **h**, and A S compounds	congenital	
contra-	Lat	against	contrasuggestion	
		often becomes **counter-**	counteract	
de-	Lat	from, reversal of a process	decompose	
di- (*or* **dis-**)	Grk	two, two-foldness	dichromatic	**mono-**
dia-	Grk	through	diameter	
dis- (*or* **di-**)	Lat (A S)	apart, separation	disruption, dilation	
dolicho-	Grk	long	dolichocephalic	**brachy-**
dynamo-	Grk	strength, force	dynamometer	
dys-	Grk	imperfect, faulty	dysarthria	**eu-**
ec-	Grk	out, out from	ecphoria	**en-**
		= **ex-** before a vowel	exorcise	
ecto-	Grk	external, outside	ectoderm	**endo-**
-ectomy	Grk	surgical removal	thyroidectomy	
en-	Grk	in	encephalon	
endo-	Grk	internal, inside	endoderm	**ecto-**
epi-	Grk	upon (position), = **ep-** before vowel or **h**	epithelium	
eso-	Grk	within, inner	esoteric	**exo-**
-esia, -esis	Grk	-tion, -ship	synthesis, anesthesia	

There is no etymological rule or uniform practice for distinguishing these two forms, generally **-esis** in abstract nouns, **-esia** for concrete things

	Language	Meaning	Example	Opposite
eu-	Grk	good, healthy, agreeable	eugenics	**dys-**
ex-	Lat	from, out from, = **ef-** before **f, e-** before **b, d, l, m, n, v**	excite	
extero-	Lat	from outside	exteroceptor	**intero-**
extra-	Lat	outside, outward	extravert	**intro-**

	Language	Meaning	Example	Opposite
extro- (rare)	Lat	directed outward		
-genetic	Grk.	pert to origins	ontogenetic	
-genic	Grk	denoting a genus or kind	psychogenic	
-gram	Grk	a written record	neurogram	
-graph	Grk	writing or recording	chronograph	**-scope**
hemi-	Grk	half (Lat = semi)	hemiopia, hemicy	
hemero-	Grk	day	hemeralopia	**nyct-**
hetero-	Grk	different, unlike	heterogeneous	**homo-, ortho-**
histo-	Grk	tissue	histology	
homo-	Grk	similar, not related to Lat **homo-** = man	homogeneous	**hetero-**
hyper-	Grk	excess, superiority	hyperesthesia	**hypo-**
hypno-	Grk	sleep, hypnosis, confusion avoided by using Lat **somno-** for sleep	hypnotic	
hypo-	Grk	to a low degree, inferior	hypodermic, hypoglossal	**hyper-**
-ia	Grk , Lat	denotes a quality or characteristic, often becomes **-y**	aphasia	
-iatry, -iatric	Grk	medicine, physicians	psychiatry	
-ic	Grk	of, pertaining to	basic	
-ical	Lat , Grk	of, pertaining to	radical	

There is a growing tendency to substitute **-ic** for **-ical**, but note (e g) electric current, electrical device Accent all -ic words on penult, exc arithmetic *n* and lunatic and certain proper names, **-ical** words on antepenult

	Language	Meaning	Example	Opposite
ideo-	Grk	idea, thought	ideomotor	
idio-	Grk	personal, private	idiosyncrasy	
in-	Lat	not, antagonism	inability, indeterminate	
		= **il-** before **l**, **im-** before **b, m**	immoral, imbecile	
		Often replaced by A S **un-** esp in adj forms Distg fr **non-** which denotes absence	unable, undetermined non-moral	
infra-	Lat	(position) below, beneath	infraclavicular	**supra-, ultra-**
inter-	Lat	between, distg fr **infra-** = within	interaction	
intero-	Lat	from inside	interoceptor	**extero-**
intra- (rare)	Lat	lying within		**extra-**
intro-	Lat.	directed inward	introspection	**extra-**
iso-	Grk	equal	isometric	
-itis	Grk	inflammation	encephalitis	
-ize, -ise	Grk	to make or cause to be	organize	
juxta-	Lat	close to	juxtapose	
kata-	Grk	(see **cata-**)		
kilo-	Grk	thousand (times)	kilometer	
kine-, kineto-	Grk	movement	kinetogenesis	
-lalia	Grk	speech process	echolalia	
lalo-	Grk	speech process	lalopathy	
logo-	Grk	reasoning, words	logorrhea	
macro-	Grk	large, great	macrocephalic	**micro-**
mal-	Lat	defect (of)	malformation, maladjustment	**bene-**
medio-	Lat	mid-position	mediocrity	
meso-	Grk	mid-position, median size	mesoderm	
meta-	Grk	change, after	metabolism	
		= **met-** before vowel or aspirate **h**	method	
-meter	Grk.	measure, measuring device Accent **-ometer** on antepenult	algometer	
micro-	Grk	small	microcosm	**macro-**
mid-	A S	middle, median, etc	midbrain	
milli-	Lat	thousand, usually 1/1000	millimicron milligram	
mis-	A S	wrong (less emphatic than **mal-**), used also with Lat terms	mislead misapprehend	
mono-	Grk	single, unitary, not properly used with Lat terms	monosyllabic	**di-, poly-**

	Language	Meaning	Example	Opposite
multi-	Lat	many, manifold	multicellular	**uni-**
myo-	Grk	muscle	myograph	
neo-	Grk	new, later version	neo-Lamarckism	
non-	Lat	absence, used also with Grk and A S terms, distg fr **in-** = contrast, antagonism	non-rational	
nyct-	Grk	night	nyctalopia	**hemero-**
ob-	Lat	toward, opposite to, etc , = **oc-**, **of-**, **og-**, **op-**, before these consonants	object	
-oma	Grk	tumor, growth	sarcoma	
omni-	Lat	all	omnivorous	
onto-	Grk	being, individual	ontogenesis	**phylo-**
-opia	Grk	-eyed, vision	myopia	
ortho-	Grk	straight, correct, direct	orthogenesis	**hetero-**
-osis, -otic	Grk	diseased condition	neurosis	
oto-	Grk	ear	otological	
over-	A S	excessive, used also w Lat terms	overlearning overvaluation	**under-**
pan-	Grk	all	panpsychism	
para-	Grk	distortion, perversion	paramnesia, parageusic	
per-	Lat	through, excess of	perceive	
peri-	Grk	around	perimeter	
philo-	Grk	love, lover	philosophy	**-phobia**
-phobia	Grk	dread (pathological)	agoraphobia	**philo-**
phylo-	Grk	race, species	phylogenesis	**onto-**
pneumato-	Grk	air	pneumatic	
pneumo- (**pneumono-**)	Grk	the lungs	pneumograph	
poly-	Grk	many, manifold	polygamy	**mono-**
post-	Lat	later, behind	post-natal	**ante-, pre-**
pre-, prae-	Lat	before (place or time), prehistoric	praecox	**post-**
pro-	Grk , Lat	favorable, in place of, in front	project	**(anti-)**
pros-	Grk	before, in front of	prosencephalon	
proto-	Grk	earliest (types, etc)	protoplasm	
pseudo-	Grk	false, erroneous, used also w A S and Lat terms	pseudoscope	
psycho-	Grk	mind	psychology	
re-	Lat	again	reiterate	
retro-	Lat	behind, backward	retrograde	**pro-**
-scope	Grk	visual observation device	chronoscope	
scoto-	Grk	darkness	scotopia	**hemero-**
se-	Lat	separation, apart	segregation	
semi-	Lat	half, not properly used w Grk or A S terms	semiconscious	
skia-	Grk	light-and-shape (no color)	skiascope	
somno-	Lat	sleep	somnolence	
sphygmo-	Grk	pulse	sphygmometer	
stereo-	Grk	solid	stereoscope stereotropism	
sub-	Lat	beneath, a lower order	subhuman, subnormal	**super-**
super-	Lat	above, a higher order, both **sub-** and **super-** used w A S terms, not properly w Grk	supernatural	**sub-**
supra-	Lat	lying above or upon	suprascapular	**infra-**
syn-	Grk	together, accompanying	synthesis	**ana-**
thermo-	Grk	heat, warmth	thermometer	
-tomy	Grk	cutting	anatomy	
trans-	Lat	across, from one to another	transmission	
ultra-	Lat	beyond, extreme	ultra-violet	**infra-**
un-	A S	lack, absence, used also w Lat terms	unjust undetermine	
under-	A S	nearer zero, center of gravity, etc	underestimate	**over-**
uni-	Lat	single, unitary	uniocular	**bi-, multi-**
ur-	Ger	primitive	Urrot (primitive red)	

TABLES

Table X

HUMAN REFLEXES FREQUENTLY TREATED IN PSYCHOLOGICAL LITERATURE

Reflex	Stimulus	Pathway	Response
abdominal	stroking skin lateral to rectus abdominus	8th to 12th thoracic	contraction of ventral abdominal wall
abdominocardiac	irritation of abdominal aortic plexus	1st to 10th thoracic	inhibition of heart
Achilles' tendon	tapping calcaneal tendon or percussing anterior tibial muscles	4th lumbar to 2d sacral	plantar flexion at ankle
acromial	tapping acromial process in shoulder	4th cervical to 1st thoracic	pronation and flexion of forearm
anal	stim of skin and mucosa of anus	3d to 5th sacral	contraction of sphincter ani
ankle, see **Achilles' tendon**			
audito-oculogyric	sudden sound	auditory and oculomotor arcs	turning eyes toward source of sound
Babinski (abnormal)	stroking sole of foot	5th lumbar to 2d sacral	extension (i e dorsiflexion) of great toe with similar extension and lateral deviation of outer toes
biceps	tapping anticubital tendon	5th to 7th cervical	contraction of biceps brachii
bladder, see **vesical**			
bone, see **periosteal**			
bulbocavernous, see **virile**			
chin, see **mandibular**			
ciliospinal, see **cutaneous-pupillary**			
conjunctival, see **corneal**			
corneal	touching cornea or conjunctiva	trigemino-facial arc	closure of eyelids
cremasteric	stroking skin over femoral triangle or inner side of thigh	1st and 2d lumbar	contraction of dartos tunic and of cremaster muscle
cutaneous-pupillary	scratching of skin of jaw or cheek	sensory V to 1st thoracic, sympathetic, to eye	dilation of pupil
cutaneous secretory	galvanic stim on skin	cutaneous sensory and sympathetic fibers	activity of sweat glands
dorsal, see **sacrospinal**			
elbow, elbow-jerk, see **triceps**			
epigastric	stroking skin from nipple downward	7th and 8th thoracic	drawing in of abdominal wall
erector spinae, see **sacrospinal**			
extensor thrust	pressure on sole of foot	2d lumbar to 3d sacral	reflex extension of leg
eyelid closure, see **corneal** and **eye-wink**			
eye-wink, see **winking**			
faucial	irritation of passage from mouth to pharynx	IX and X cranial	contraction of faucial muscle, elevation of hyoid, gagging, vomiting
fixation	light on an extra-foveal point of retina	optic tracts to oculomotor, mid brain	turning eye toward source of stim

Reflex	Stimulus	Pathway	Response
flexion (lower extremity)	nociceptive stim	2d lumbar to 3d sacral	withdrawal of lower limb
front tap	striking skin above muscle on anterior part of leg, with leg and foot extended	3d lumbar to 2d sacral	contraction of gastrocnemius
galvanic, galvanic skin	physiological activity controlled by autonomic system	cutaneous to sympathetic	decreased galvanic resistance of skin
gastrocolic	introduction of food into empty stomach	arcs through thoracic cord	peristaltic wave in colon
gastro-iliac	pressure of food in stomach	autonomic arcs through thoracic cord	relaxation of iliocecal valve
gluteal	irritation of skin over gluteal muscles	4th to 5th lumbar	contraction of gluteal muscles
grasping (involuntary)	cutaneous stim of palms or fingers	7th to 8th cervical (observed after lesions of premotor area of cortex)	flexion of fingers
Haab's pupil	attention to bright object in darkened room	optic tracts to oculomotor, midbrain	iris contraction of both eyes
head retraction	irritation of nares	V sensory and upper cervical	withdrawal of head
hunger contraction	hormone acting on empty stomach	musculature and nerve plexuses of stomach	contraction of stomach
hypochondriacal	pressure below inferior border of ribs	8th thoracic to 4th cervical	quick intake of breath
hypothenar	pressure on pisiform bone of wrist	8th cervical to 1st thoracic	flexion of little finger
infraspinatus	tapping shoulder-blade near its inner margin	5th to 7th cervical	outward rotation of arm and straightening of el bow
interscapular, see scapular			
iris	increase or decrease of light intensity	retina, optic tracts, oculomotor (constriction), 1st thoracic and cervical sympathetic (dilation)	contraction or relaxation of iris muscles
jaw, see mandibular			
knee-jerk, see patellar			
labyrinthine righting	stim of labyrinth (vestibular) origin	vestibular, vestibulo-spinal tracts, motor to neck and limbs	rotating head to upright position or righting the body to normal anti gravity position
lacrimal, lachrymal	irritation of nasal mucous membrane	V (sensory) and VII cranial and great petrosal and sphenopalatine ganglion	increased secretion of tears
laryngeal	irritation of larynx or fauces	X cranial to 4th cervical and thoracic	coughing
lid-closure, see corneal			
lumbar, see sacrospinal			
mandibular	a blow on chin or teeth	V (sensory), V (motor) cranial, pons	contraction of masseter muscles, elevation of lower jaw
mandibuloconjunctival	touching corneal conjunctiva	trigeminal and masticator nucleus and n	drawing lower jaw toward side of stimulus

Reflex	Stimulus	Pathway	Response
mass (abnormal)	stim of skin below level of spinal injury	below level of injury	movement extending over entire area innervated, usually lower limb
masseteric, see **mandibular**			
McCarthy's, see **supraorbital**			
myenteric	stim of some portion of intestine	autonomic	contraction above, and relaxation below
myotatic	stretching of any muscle	reflex arc	increase of tonus in muscle
nasal	irritation of mucous membrane of nose	V cranial (sensory) 4th cervical	sneezing
nasomental	a blow on side of nose	trigemino-facial arc, oblongata	contraction of mentalis muscle and elevation of chin
oblique (also syn for **cremasteric**)	irritation of skin below inguinal ligament	1st and 2d lumbar	contraction of obliquus externus muscle
oculocardiac	pressing one or both eyeballs	V (sensory), X (motor cranial), oblongata	slowing of heart-beat
ophthalmic, see **supraorbital**			
orthocardiac	assumption of upright position of body	autonomic	dilation of right side of heart
palatal	touching the palate	V sensory, IX and X cranial, oblongata	contraction of palatal and pharyngeal muscles, swallowing
palmar	irritation of palm of hand	8th cervical to 1st thoracic	flexion of fingers
paradoxical patellar	tapping the patellar tendon	3d lumbar	contraction of adductor muscle, but not of quadriceps femoris
paradoxical pupillary	stim of retina by light	optic tract, oculomotor	dilation of pupil
patellar, patellar tendon	tapping patellar tendon	2d to 4th lumbar	contraction of quadriceps femoris
penile, penis, see **virile**			
periosteal	tapping of a bone of forearm or leg	5th to 8th cervical (or) 2d lumbar to 3d sacral	contraction of muscle tapped
peristaltic	stim by food in alimentary canal	autonomic	wave-like contractions in alimentary canal and intestines
peroneal	stroking peroneal muscles of fibula	5th lumbar to 1st sacral	movement of those muscles
pharyngeal	touching back of pharynx	glossopharyngeal and vagal arcs	contraction of pharyngeal constrictors
plantar	stroking sole of foot	1st and 2d sacral	flexion of toes
platysma, see **cutaneous-pupillary**			
positive supporting, postural	disturbance of equilibrium	proprioceptive arcs in cord	bringing (and holding) leg in position to support body
psychogalvanic, see **galvanic**			
pupillary, see **iris**			
pupillary-skin, see **cutaneous-pupillary**			
quadriceps extensor, see **patellar**			
radial	tapping lower end of radius	5th to 8th cervical	flexion of forearm (and often of fingers)
rectal	accumulation of feces in rectum	3d to 5th sacral	defecation

REFLEX	STIMULUS	PATHWAY	RESPONSE
sacrospinal	scratching skin on lateral border of spinal muscle	thoracic region	contraction of sacrospinal muscle
salivary	stim of afferent nerve	lingual V to secretory centers of VII and IX cranial	change in secretory activity of one or more salivary glands
scapular	scratching skin over scapula or between the scapulae	5th cervical to 4th thoracic	movement of shoulders
sexual	stimulation of genitalia	3d and 4th sacral	activities which precede orgasm and orgasm itself
skin, see **superficial**			
sole, see **plantar**			
starting, startled	loud sound, withdrawal of support, etc	brain stem and cord	jerking movements, change in respiration, etc
stretch, see **myotatic**			
struggle	confinement of limbs or head	brain stem and cord	violent (usually unco ordinated) movements
sucking	grasping of nipple with lips and tongue	V (sensory) to V (motor)	drawing of liquid into mouth
superficial	pinching skin over a muscle	V cranial to 1st thoracic	contraction of that muscle
supinator longus	tapping tendon of brachioradialis	5th cervical	flexion of forearm
supraorbital	tapping supraorbital foramen	trigemino-facial arc	contraction of eyelid muscle
swallowing	food in mouth	V to XI cranial, oblongata	activity of deglutition muscles
tendo Achillis, tendon of Achilles, tendo calcaneus, see **Achilles' tendon**			
tonic neck	movement of head in relation to trunk	VIII cranial to 4th cervical	modification of posture of limbs
tonic neck-eye	changes of position of head in relation to any plane	VIII cranial to 4th cervical and oculomotor	compensatory eye-movements
triceps	tapping tendon near olecranon	6th to 7th cervical	contraction of triceps brachii
urinary, see **vesical**			
vesical	filling of bladder	3d to 5th sacral	micturition
virile	tapping back of penis near scrotum	4th and 5th sacral	contraction of bulbocavernous muscle of urethra
visceromotor	stim of one of viscera in abdomen or thorax	1st to 12th thoracic	contraction of a parietal muscle in abdomen or thorax
visual righting	fixation of an object in visual field	optic tracts, tectospinal and descending corticospinal tracts to neck muscles	orientation of head
vomiting	intestinal, gastric, cardiac or pharyngeal irritation	X cranial to 12th thoracic, vomiting centers in lower oblongata	expulsion of substance through the mouth or nose or both
winking, wink	dryness of cornea	V (sensory) to VII (motor)	closure of eye
zygomatic	tapping the zygoma (cheek-bone)	V (sensory) to V (motor)	lateral movements of jaw

TABLE XI

RETINAL LAYERS IN THE HUMAN EYE

(From outer surface to center of eyeball)

1 **Pigment layer**	a single layer of epithelial cells containing pigment
2 **Layer of rods and cones**	syn bacillary layer or Jacob's membrane
3 **External limiting membrane**	a part of the supporting tissue of the retina
4. **Outer nuclear layer**	it contains the nuclei of the neurons, of which the rods and cones are a part
5 **Outer granular, molecular, plexiform, or reticular layer**	a complex network of fine processes of the neurons of layer 6, as they come into functional relation with the processes of the visual cells in layer 4
6 **Inner nuclear layer, or layer of bipolar nerve-cells**	it serves as a connecting neural link between the visual cells of layer 4, and the ganglion cells of layer 8
7 **Inner granular, molecular, plexiform, or reticular layer**	it consists chiefly of processes from the cells of layer 6, coming into relation with those of layer 8
8 **Layer of ganglion cells**	vesicular layer
9 **Fibrous layer, or layer of nerve fibers**	it consists of the axis-cylinder processes of the ganglion cells, passing across the surface of the retina to collect and form the optic nerve
10 **Internal limiting membrane**	it is derived from the supporting tissue of the retina and lies in contact with the vitreous

[Layers 2 and 4 are grouped together as the **neuro-epithelial layer**, layers 5 to 9, as the **cerebral layer**

TABLE XII

SENSORY ILLUSIONS

A VISUAL

I Geometrical (or geometric optical) illusions
- *a* reversible perspective, e g staircase
- *b* extent
  - 1 variable, e g Muller-Lyer
  - 2 constant, e g vertical-horizontal
- *c* direction
  - 1 variable, e g parallel lines (Zollner, Wundt, Hering)
  - 2 constant, e g chess-board (Helmholtz)
- *d* assimilative (associative), e g Muller Lyer rectangles
- *e* miscellaneous, e g Poggendorff

II Physical distortions
- *a* mirage
- *b* *wetness* on pavements
- *c* effects of mirrors, lenses, prisms, pseudoscopy, stereoscopy, telecostereoscopy, etc

III Physiological phenomena
- *a* after-images
- *b* contrast
- *c* recurrent images
- eidetic images
- *e* hypnagogic images
- *f* autokinetic images

IV Movement, e g stroboscopic, moon and clouds, stationary and moving train, *trip to the moon*

V Distance, e g mountains on clear day vs foggy conditions, sun or moon on horizon

B TACTUAL

I Juxtaposition, e g Aristotle's illusion

II Parallelism, e g lines across face, along arm, etc

III Movement, e g stroboscopic, objects crawling

IV Temperature, e g Locke's cold and warm illusion

C. KINESTHETIC-VISUAL

E g size-weight, Stratton's reversal of visual field

D AUDITORY-VISUAL

E g Young's binaural reversal

TABLES

Table XIII

SPECTRAL LINES AND RANGE OF COLORS

Spectral Line	Wave Length mμ	No of Vibrations (trillion per second)	Color Hue	Range mμ
A	759	395		
B	687	437	Red	760–647
C	656	457		
D	589	509	Orange	647–588
Primal Yellow	574	520	Yellow	588–550
E	527	569	Green	550–492
Primal Green	505	599		
F	486	617	Blue	492–433
Primal Blue	478	629		
G_1	432	695	Violet	433–390
H	397	756		

Visible Range 760–390 mμ at ordinary intensities, 395–769 trillion
Limits of Color Change 655–430 mμ
Primal Red does not appear in the spectrum, but is evoked by a mixture of lights from the extreme ends of the spectrum (red and blue)

Table XIV

STATISTICAL FORMULAE

USEFUL IN PSYCHOLOGY AND EDUCATION

Note The use of certain symbols in the formulae marked with an asterisk (*) is indicated at the end of the table

Formula	Description
$M = \frac{\Sigma X}{N}$	Arithmetic mean calculated from raw scores — ungrouped data
$\sigma_M = \frac{\sigma}{\sqrt{N}}$	Standard error of the mean
$*Mdn = l + i\left(\frac{\frac{N}{2} - F}{f_p}\right)$	Median calculated from below up — grouped data
$\sigma = \sqrt{\frac{\Sigma v^2}{N}}$	Standard deviation (root-mean-square error), dispersion, calculated from the mean — ungrouped data
$*\sigma = i\sqrt{\frac{\Sigma f(v')^2}{N} - c^2}$	Standard deviation calculated from an arbitrary origin — grouped data
$\sigma_\sigma = \frac{\sigma}{\sqrt{2N}}$	Standard error of the standard deviation
$*\sigma_p = \sqrt{\frac{pq}{N}}$	Standard deviation of the proportion in one category of a Bernoullian distribution
$Q = \frac{Q_3 - Q_1}{2}$	Quartile deviation computed from upper and lower quartiles (semi-interquartile range)
$A.D.$ from $M = \frac{\Sigma\lvert v\rvert}{N}$	Average deviation from the mean calculated from the mean — ungrouped data, mean deviation, mean error

TABLES

$$\beta_1 = \frac{\mu_3^2}{\mu_2^3}$$

One measure of skewness, a criterion of curve type

$$\beta_2 = \frac{\mu_4}{\mu_2^2}$$

One measure of kurtosis, a criterion of curve type

$$Sk = \frac{3(M - Mdn)}{\sigma}$$

One measure of skewness

$$y = \frac{N}{\sigma\sqrt{2\pi}}\, e^{-\frac{x^2}{2\sigma^2}}$$

Normal probability curve (Gaussian error curve, curve of the normal law of error, normal curve, normal error curve, normal distribution curve, bell-shaped curve)

$$y_0 = \frac{N}{\sigma\sqrt{2\pi}} = \frac{N}{2.5066\,\sigma}$$

Maximum ordinate of the normal probability curve

$$V = 100\,\frac{\sigma}{M}$$

A coefficient of variation (measure of relative dispersion, coefficient of variability)

$$\sigma_{(x_1 - x_2)} = \sqrt{\sigma_1^2 + \sigma_2^2 - 2r_{12}\sigma_1\sigma_2}$$

Standard deviation of the difference of two raw scores when they are correlated

$$\sigma_{(x_1 \pm x_2)} = \sqrt{\sigma_1^2 + \sigma_2^2}$$

Standard deviation of the sum or difference of two raw scores when they are uncorrelated

$$r_{12} = \frac{\Sigma x_1 x_2}{N\sigma_1\sigma_2}$$

Pearson product moment coefficient of correlation (product moment method, product moment coefficient of correlation, correlation coefficient, Pearsonian coefficient of correlation), calculated from the means.

$$r_{12} = \frac{\Sigma x_1 x_2}{\sqrt{\Sigma x_1^2}\sqrt{\Sigma x_2^2}}$$

Pearson product moment coefficient of correlation, calculated from the means

$$r_{12} = \frac{\frac{\Sigma x_1' x_2'}{N} - c_1 c_2}{\sigma_1\sigma_2}$$

Pearson product moment coefficient of correlation, calculated from arbitrary origins

$$\sigma_{r_{12}} = \frac{1 - r_{12}^2}{\sqrt{N}}$$

Standard error of the Pearson product moment coefficient of correlation

$$\bar{x}_1 = r_{12}\frac{\sigma_1}{\sigma_2}x_2$$

$$\bar{x}_2 = r_{12}\frac{\sigma_2}{\sigma_1}x_1$$

Regression equation in terms of deviations from the means — two variables

$$\sigma_{1.2} = \sigma_1\sqrt{1 - r_{12}^2}$$

$$\sigma_{2.1} = \sigma_2\sqrt{1 - r_{12}^2}$$

Standard error of estimate (partial σ, standard deviation of an array, standard deviation of errors of estimate) — two variables

$$*\rho = 1 - \frac{6\,\Sigma d^2}{N(N^2 - 1)}$$

Rank correlation coefficient (rho, Spearman's method, method of rank correlation, method of rank differences, coefficient of correlation calculated from ranks)

$$r_{\infty\infty} = \frac{r_{12}}{\sqrt{r_{1I}}\sqrt{r_{2II}}}$$

Spearman's formula for correction for attenuation (estimated true correlation between 1 and 2, estimated correlation between perfect measures of 1 and 2)

$r_{AA} = \dfrac{A\, r_{1\,1}}{1 + (A - 1) r_{1\,1}}$	Spearman-Brown formula for correlation between A forms of a test and A other similar forms
$r_{12\ 34\ \ n} = \dfrac{r_{12\ 345\ \ (n-1)} - r_{1n\ 345\ \ (n-1)} r_{2n\ 345\ \ (n-1)}}{\sqrt{1 - r^2_{1n\ 345\ \ (n-1)}}\sqrt{1 - r^2_{2n\ 345\ \ (n-1)}}}$	$(n-2)^{th}$ order partial correlation coefficient in terms of coefficients of lower order — n variables
$r_{1\ 23} = \sqrt{\dfrac{r^2_{12} + r^2_{13} - 2\, r_{12} r_{13} r_{23}}{1 - r^2_{23}}}$	Multiple correlation coefficient in terms of zero order coefficients — three variables
$\overline{X}_1 = b_{12\ 34\ \ n} X_2 + b_{13\ 2456\ \ n} X_3 + \quad b_{1n\ 234\ \ (n-1)} X_n + C$	Regression equation in terms of raw scores — n variables
$\dfrac{D}{\sigma_D}$	The reliability of the difference between two calculated quantities measured in terms of the standard error of the difference (critical ratio)

* The use of certain symbols in these formulae is as follows

l	lower limit of the class in which the measure considered lies
i	interval
F	sum of frequencies of all classes below this class
f_p	frequency of class in which the measure considered lies
f	frequency in a class
c	correction $M-M'$
p	probability of success
q	$1-p$
d	a difference in rank of an individual on two measures

TABLE XV

SYMBOLS AND TECHNICAL ABBREVIATIONS

(For roman letters used as symbols see part F)

A MATHEMATICS

SYMBOL	VERBAL EQUIVALENT	MEANING (*or* OPERATION)
$+$	plus	addition
$-$	minus	subtraction
$\pm$	plus or minus	either add or subtract
$\times$	times	multiplication $a \times b$, also $a\ b$, or ab
$- /$	divided by	division $a - b$, a/b, also $\frac{a}{b}$
$=$	equals	equality
$\neq$	is not equal to	inequality
$>$	is greater than	
$\ngtr$	is not greater than	
$\leqq$	is less than or (at most) equal to	
$<$	is less than	
$\nless$	is not less than	
$\geqq$	is more than or (at least) equal to	
$\equiv$	is identical with	identity
$= \ =$	is approximately equal to	
$\perp$	perpendicular	
$=$	approaches equality as a limit	
$\simeq$	is equivalent to, in terms of some modulus [See Note 1]	
$\mid\ \mid$	absolute value of the quantity enclosed	e g $\lvert a \rvert$ signifies the quantity a regardless of algebraic sign

SYMBOL	VERBAL EQUIVALENT	MEANING (or OPERATION)
$\lfloor$!	factorial	continued product of integers up to the number indicated $\lfloor 9$ 9!
$\sim$	tilde	varies in a fixed relation with the difference between
$\rightarrow$	arrow	(variable at left) approaches as limit (variable at right)
$\surd$	(square) root o	with superscript numeral extract that root $\sqrt[3]{x}$ = cube root, without superscript square root
$\int$	integral of	integration, in calculus
Σ	sigma (large)	summation of (the expression which follows)
Π	pi (large)	the continued product of [See Note 2]
π	pi	ratio of circumference to diameter of circle 3 141592+
∞	infinity	
δ	delta	a small variation (with or without a following symbol)
Δ	delta (large)	(alternative for δ) [Cf C]
ϕ, ψ, f, F	phi, psi, f, F	(commonly used to indicate a function)
—	bar (over a symbol)	the mean of $\bar{X}$
( )	parentheses	subjects terms enclosed to the same operation
[ ]	brackets, sum of	subjects terms enclosed to the same operation
——	vinculum	brace uniting several algebraic terms to show that all are subject to the same operation

Note 1 — The modulus is the rule or principle which defines the relation

Note 2 — With superscript and subscript Π indicates the limiting values which the variables in the function take e g in $\prod_1^4 (x + \frac{1}{x})$ the continued product is to include all possible values of x between 1 and 4 $(1+1/1)(2+1/2)(3+1/3)(4+1/4)$

B PHYSICS

σ	sigma	thousandth of a second [Cf C]
μ	mu, micron	millionth of a meter, i e thousandth of a millimeter [Cf C]
$m\mu$	millimicron	thousandth of a micron
μf	microfarad	millionth of a farad, unit of electrical capacity
$\mu\mu$	mu-mu, micromicron	millionth of a micron
$\sim$	cycle	a complete wave vibration
$^\circ$	degree(s)	e g 15° = 15 degrees
$'$	minutes	e g $15'$ = 15 minutes (angular measure or time)
$''$	seconds	e g $15''$ = 15 seconds (angular measure or time)
λ	lambda	wave-length
Ω, ω	ohm	unit of electrical resistance

C STATISTICS, PSYCHOPHYSICS

σ	sigma	standard deviation [See Note 3]
Σ	sigma (large)	the sum of [See Note 4]
Δ	delta (large)	in interpolation, denotes a finite difference [See Note 5]
γ	gamma	argument of normal distribution [of errors]
$\phi\gamma$	phi-function of gamma	values of the ordinate of the cumulative (ogive) form of the normal distribution

SYMBOL	VERBAL EQUIVALENT	MEANING (*or*) OPERATION
$\rightarrow$	arrow	(1) direction (forward) on a scale of measurement, (2) variable on left approaches as limit the one on right
∞, ω	infinity, omega	as subscript, indicates a true score
ρ	rho	the coefficient of correlation based upon squares of differences in rank
ϕ, ω, η	(phi, omega, eta)	and other symbols are used to designate various other kinds of correlation coefficients
β	beta	product-moment regression coefficient when standard scores are employed [See Note 6]
β_1	beta sub-one	Pearson's measure of skewness ($= \mu_3^2/\mu_2^3$)
β_2	beta sub-two	Pearson's measure of kurtosis ($= \mu_4/\mu_2^2$)
κ	kappa	Pearson's criterion of curve type
μ_1, μ_2 μ_n	mu	the moments, first ($=$ 0), second, (n^{th}) of a distribution from the mean
χ^2	chi square	*the square contingency (in tests of goodness of fit)*
ϕ^2	phi square	mean square contingency

Note 3 — $\sigma_{1.2}$ denotes the standard deviation measured from the regression line of the first variable for constant values of the second

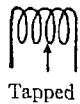
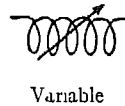
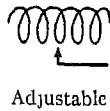
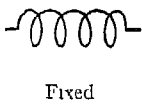
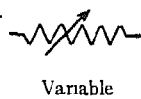
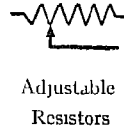
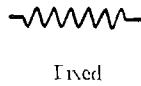
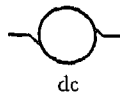
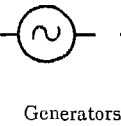
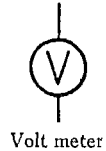
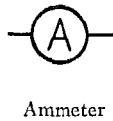
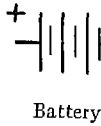
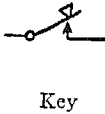
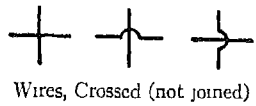
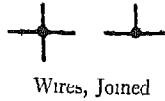
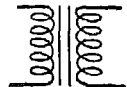
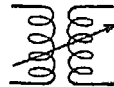
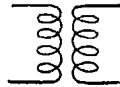
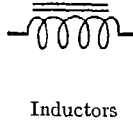
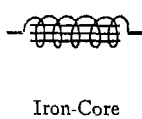
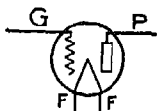
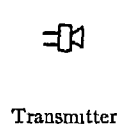
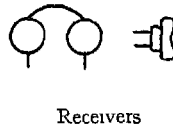
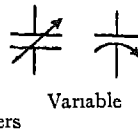
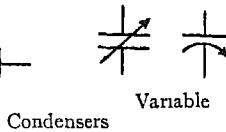
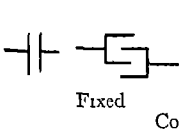
Note 4 — *With no symbol above or below the* Σ, Σx *means that all possible values of* x *are summed* $\sum_1^{10} x$ indicates that the x's in the series, from x number one (or value 1) to x number ten (or value 10), are summed Σxy indicates the sum of all the products of the x's and the corresponding y's $\sum_{i=1, j=1}^{i=a, j=b} r_{ij}$ indicates the sum of all the r's, when i takes all values from 1 to a, and j all values from 1 to b, inclusive

Note 5 — Δ also stands for a major determinant when written without subscript, and for minor determinants when written with subscripts, e g Δ_{12} represents the minor determinant obtained from the major by crossing out the first row and the second column

Note 6 — The subscripts are of two sorts b_{12} (or β_{12}), and $b_{12.34}$ (or $\beta_{12.34}$)

D BIOLOGY

♂	male	used in describing a male specimen
♀	female	used in describing a female specimen
☿	hermaphrodite	used in describing a hermaphrodite

E. ELECTRICAL CIRCUIT DIAGRAMS

G = grid, or control electrode
F, F = filament, or cathode
P = plate, or anode

Three-Electrode Vacuum Tube

TABLES

F TECHNICAL ABBREVIATIONS

Abbreviation	Meaning	Abbreviation	Meaning
A D	average deviation	ms	millisecond
AQ	achievement (accomplishment) quotient	N	the number of cases in the sample studied
Å, ÅU	Ångstrom unit (one ten-thousandth of a micron)	n	(commonly) the number of variables involved
b	product-moment regression coefficient [See Note 6]	O	observer [See Note 7]
CA	chronological age	p	time error (Fechner)
c g s	centimeter-gram-second system	p	practical intelligence
CI	central interval	p	probability ratio
d	differential of, differentiation (calculus)	p	the proportion in the class in question [See Note 9]
x	difference or deviation, esp from an average (statistics)	P E, p e	probable error
db	decibel	P G R	psychogalvanic reflex
DL	difference limen	PSE	point of subjective equality, cf PS
DS	difference sensation	PS	point of symmetry
D V, d v	double vibration (cycles)	Q	coefficient of association (Yule)
E	experimenter [See Note 7]	Q	the semi-interquartile range or quartile deviation
e	base of natural series or logarithms =2 71828183	q	the proportion not in the class in question [See Note 9]
f	frequency of a category or class-interval	q	space error (Fechner)
F_1, F_2	(first, second) filial generations	R	stimulus (Ger *Reiz*)
F T U, F U	Freeman time unit	r	product moment coefficient of correlation [See Note 10]
GSR	galvanic skin reflex	r_t	tetrachoric coefficient of correlation
g	general factor	R D	reaction of degeneration
h	index of precision, value 0 4769/P E or $1/\sigma\sqrt{2}$	RL	stimulus limen
i	square root of minus 1	S	errors of reference (Calles or Ferree)
I	intensity	S	limen or threshold (Urban), cf L
IQ	intelligence quotient	S	sensation (as opposed to R, stimulus)
IU	interval of uncertainty, cf CI	S	subject [See Note 7]
j n d	just noticeable difference	s	specific factor
k	a constant	S D	standard deviation
k	a product-moment alienation coefficient [See Note 8]	SU	sensation units
L	limen or threshold	S V, s v	single vibrations (half cycles)
L_L	lower limen	t	time
l p d	least perceptible difference	TL	terminal limen
LS	liminal (or least) sensation	TR	terminal stimulus
L_U	upper limen	TS	terminal (or greater) sensation
M	the mean, or arithmetic average	TU	transmission unit
MA	mental age	v d	double vibrations (cycles)
Mdn	the median	v s	single vibrations (half cycles)
Mo	the mode	z	the ordinate in a unit normal distribution, with subscript, indicates a standard measure
MS	modal sensation		

Note 6 — The subscripts are of two sorts b_{12} (or β 12), and $b_{12\ 34}$ (or β 12 34)

Note 7 — Pl *E*s, *O*s, *S*s, possessive *E*'s, etc , possessive pl *E*s', etc

Note 8 — *k* with any subscript is defined as equal to $[1 - r^2]^{1/2}$, the *r* having the same subscript as the *k* The positive sign of the radical is necessary

Note 9 — In other words, $p + q = 1$

Note 10 — Sometimes (not with best warrant) *r* is used for other sorts of correlation coefficients Subscripts are of three sorts r_{12}, the total correlation, $r_{12\ 3\ \ldots\ n}$ the partial correlation, $r_{1\ 23}$, $r_{1\ 234\ \ldots\ n}$ the multiple correlation

TABLES

TABLE XVI

TOPOGRAPHICAL REFERENCE TERMS

1. AXES OF REFERENCE

cephalocaudal	head-tail (syn in man vertical, in sessile animals apicobasal)
dorsoventral	back-belly (syn in man anterior-posterior)
dextrosinistral	right-left (syn lateral)

2. PLANES OF REFERENCE

transverse	at right angles to cephalocaudal axis (syn in man horizontal)
frontal	at right angles to dorsoventral axis
mesial, medial	at right angles to dextrosinistral axis, dividing body into halves
sagittal	any plane parallel to the mesial
coronal	any plane in head at right angles to cephalocaudal axis

3 GENERAL LOCATIONS AND DIRECTIONS

PERTAINING TO	LOCATION IN (*adj*)	DIRECTION (*adv*)	CONTRASTED WITH
aboral	end opp mouth (protozoa)		oral
anterior	front		posterior
appendicular	the appendages of body		axial
axial	the frame of body		appendicular
caudal	tail	caudad = tailward	cephalic, cephalad
central	center	centrad = toward center	peripheral, peripherad
cephalic	head	cephalad = toward head	caudal, caudad
coronal	top of head	coronad = toward top of head	
dextral	right side	dextrad = to the right	sinistral, sinistrad
distal	farther from point of origin	distad = away from point of origin	proximal, proximad
dorsal	back	dorsad = toward back	ventral, ventrad
exterior	outside		interior
external	outer (applied to walls of cavities, one of a pair of bodies, etc)		internal
frontal	forehead		
horizontal	parallel to horizon		
interior	inside		exterior
internal	inner (applied to walls of cavities, one of a pair of bodies, etc)		external
lateral	side	laterad = toward side	vertical [horizontal]
mesial			
medial			
meson	neither right nor left		
occipital	back of head		
oral	mouth end (protozoa)		aboral
peripheral	outer surface or boundary	peripherad = toward outside	central, centrad
proximal	nearer to point of origin	proximad = toward point of origin	distal, distad
sinistral	left side	sinistrad = to the left	dextral, dextrad
transverse	across the body		
ventral	belly	ventrad = toward the belly	dorsal, dorsad
vertical	up-and-down	..	horizontal [lateral]

TABLES

Table XVII

TOPOGRAPHICAL TERMS RELATING TO THE HUMAN BODY

A Head and Neck	Pertaining to, Located in
auricular	ear
buccal	cheeks at either side of mouth
ciliary	eyelashes
facial	face
hyoid	upper part of front of throat
labial	lips
mastoid	just behind ears
mental	chin
nasal	nose
nuchal	nape of neck
occipital	back of head
oral	mouth
orbital	eye-socket
palpebral	eyelid
parietal	sides of head at top
peristomial	around mouth
sternocleidomastoid	sides of throat in front
submaxillary	jaw-bone
submental	below chin at sides
supraorbital	above eye
temporal	temples above ears
thyroid, thyreoid	lowest part of throat in front
zygomatic	over cheek bones

B Trunk	
aboral	end furthest from mouth
anal	anus
caudal	tail
dorsal	back
epigastric	stomach
hypochondriac	right and left of epigastric region
inguinal	groins
infraclavicular	below collar-bones on either side
inframammary	below nipples on either side
infrascapular	below shoulder-blades
intercostal	between ribs
interscapular	between shoulder-blades
lumbar	back, above buttocks
mammary	breasts
mesogastric	middle of abdomen
pectoral	chest
perineal	surrounding openings of excretory and reproductive organs
pubic	above perineal region
pudendal	sex organs, external
scapular	shoulder-blades either side
sternal	above breast bone
subinguinal	front of leg below groin
subscapular or **infrascapular**	below shoulder-blades
supraclavicular	above collar-bone
suprascapular	above shoulder-blades
umbilical	navel
ventral	abdominal

C Limbs	Pertaining to, Located in
acromial	tip of shoulder
antibrachial	inner surface of forearm
axillary	armpits
brachial	inner surface of upper arm
calcaneal	heel
carpal	wrist
coxal	tip of thigh
crural	lower legs
cubital	*inside of elbow*
deltoid	upper arm, over shoulder joint
digital	fingers and toes
femoral	thigh
gluteal	buttock
malleolar	ankle
olecranal	tip of elbow
patellar	knee
plantar	sole
popliteal	rear knee
radial	side of forearm near thumb
retromalleolar	behind ankle
sural	back of calf
trochanteric	side portion of hips, below coxal regions
ulnar	forearm, same side as little finger
ungual	finger and toe nails
volar	palm and palmar surface of forearm

D Deep and Visceral Regions	
abdominal	abdomen
adrenal	kidneys, usually referring to glands
alveolar	gums
bronchial	tubes connecting lungs to windpipe
caecal	middle part of large intestine
cardiac	heart
cephalic	head
colonic	large intestine
cortical	surface of brain and glands
duodenal	upper intestines, opening from stomach
endocardiac	in heart
esophageal, oesophageal	tube connecting mouth and stomach
gastric	stomach
glossal	tongue
guttural	*in throat*
hepatic	liver
intestinal	intestines
jugular	throat
lacrimal, lachrymal	tear glands and ducts
laryngeal	larynx, containing vocal cords
maxillary	jaws

D Deep and Visceral Regions	Pertaining to, Located in
meningeal	meninges, membranes wrapping brain
mesenteric	intestinal fold
ophthalmic	eye
ovarian	ovaries
pericardial	around the heart
peritoneal	peritoneum, membrane wrapping intestines
pharyngeal	mouth cavity near beginning of esophagus
pleural	in lungs
pulmonary	lungs
pyloric	opening from stomach to duodenum
rectal	rectum
renal	kidneys
retroperitoneal	behind the peritoneum
splenic	spleen
sublingual	under the tongue
suprarenal	above the kidneys
testicular	testicles, testes
thoracic	chest
tonsillar	tonsils
tracheal	windpipe
tympanic	ear drum
uretal	tubes connecting kidneys with bladder
urethral	canal through which urine is discharged from the bladder
urogenital	organs of urine secretion and excretion and organs of reproduction
vaginal	vagina
uterine	womb, uterus
vesical	bladder
visceral	internal organs

E Skeletal Regions	Pertaining to, Located in
appendicular	bones of limbs
articular	joints
axial	skull and spine
carpal	wrist bones
coccygeal	prolongation at lower end of spine
costal	ribs
cranial	skull
ethmoidal	behind nose
fibular	fibia bone in leg
humeral	bone from shoulder to elbow
iliac	ilium
metacarpal	bones of body of hand
metatarsal	bones of front part of foot
pelvic	pelvis
sacral	base of spine
sphenoidal	base of skull
tarsal	bones of rear part of foot
tibial	shin-bone
vertebral	bones of spine

Table XVIII

TOPOGRAPHY OF THE HUMAN CENTRAL NERVOUS SYSTEM

I FOREBRAIN

A. STRUCTURES AND LOCALITIES

angular gyrus	small area behind upper end of temporal (parallel) fissure of cerebral hemisphere
anterior central gyrus	ascending frontal (or precentral) gyrus
Broca's gyrus	posterior third of inferior frontal gyrus in the hemisphere on the side opposite to the more usable hand, regarded by Broca as the cortical emissive speech center
callosal gyrus	cingulate gyrus (or gyrus fornicatus)
central lobe	island of Reil
central sulcus	fissure of Rolando between precentral and postcentral gyri
cingulate gyrus	gyrus on mesial surface of cerebral hemisphere above and parallel to edge of corpus callosum
claustrum	thin layer of grey matter in white matter between lentiform nucleus and island of Reil
collateral eminence	elongated swelling lying along lateral side of hippocampus major in lateral ventricle, under and corresponding to collateral fissure
corpus albicantia	mammillary bodies
corpus striatum	portion of forebrain lying in front of thalamus and, like it, under cerebral hemispheres, so called because the mingling of white fibers with grey matter gives it a striped appearance
cuneus	triangular lobe on mesial surface of cerebral hemisphere (at extreme back of brain) behind parieto-occipital and above calcarine fissure

dentate gyrus	narrow corrugated band of receptive cortex running downward and forward above hippocampal gyrus, separated from it by hippocampal fissure
epithalamus	region including habenular nuclei, pineal body, and habenular commissure
fascia dentata hippocampi	dentate gyrus
frontal gyrus/ascending	parallel to and in front of fissure of Rolando
frontal gyrus/inferior	lying just below middle frontal gyrus
frontal gyrus/middle	nearly horizontal gyrus lying just below superior frontal gyrus
frontal gyrus/superior	running along top of frontal lobe and occupying space on both outer and medial (or mesial) surfaces of cerebral hemisphere
frontal lobe	large lobe of cerebral hemisphere in front of central (or Rolandic) fissure and above the Sylvian fissure
frontal pole	front end of cerebral hemisphere
fusiform gyrus	gyrus on mesial surface of cerebral hemisphere near bottom between collateral fissure and inferior temporal gyrus
geniculate body/external	lateral geniculate body
geniculate body/internal	medial geniculate body
geniculate body/lateral	swelling on rear end of thalamus toward outer (left or right) side
geniculate body/medial	swelling on rear end of thalamus between lateral geniculate and pulvinar bodies
genu of corpus callosum	front bent portion of corpus callosum
genu of internal capsule	curve of internal capsule, passing in front of lentiform nucleus and projecting into lateral ventricle between caudate nucleus and toward thalamus
globus pallidus major	middle segment of lentiform nucleus
globus pallidus minor	inner (mesial) segment of lentiform nucleus
hippocampal gyrus	gyrus on mesial surface of cerebral hemisphere, below and behind callosum
hippocampus major	curved eminence extending the length of floor of inferior horn of lateral ventricle
hypophysis cerebri	pituitary body
hypothalamus	region including mammillary bodies, tuber cinereum, infundibulum, hypophysis, pre-optic region, and optic chiasm
infundibulum	stalk by which pituitary body is attached to tuber cinereum arising from the forebrain under cerebral hemispheres
insula	island of Reil
isthmus	constriction between pons and midbrain
isthmus (gyri fornicati)	small region on inner surface of cerebral hemisphere at rear end of hippocampal gyrus, between calcarine fissure and corpus callosum
interpeduncular fossa	triangular area between the crura cerebri with its apex at the dorsal border of the pons and its base at the level of the corpora mammillaria
limbic lobe	cingulate and hippocampal gyri
lingual gyrus	tongue-shaped gyrus on inner surface of cerebral hemisphere, at rear, below calcarine fissure and above collateral fissure
mammillary bodies, corpora mammillaria	two small round bodies in floor of third ventricle, between the cerebral peduncles and behind tuber cinereum
marginal gyrus	superior frontal gyrus
massa intermedia	band of gray matter connecting the lateral walls of third ventricle
metathalamus	geniculate bodies, posterior nucleus of the thalamus and posterior commissure
occipital gyrus/inferior	lower end of the two horizontal gyri on lateral surface of occipital lobe of cerebral hemisphere
occipital gyrus/superior	upper of the two horizontal gyri composing lateral surface of occipital lobe of cerebral hemisphere
occipital lobe	lobe of cerebral hemisphere in extreme rear
occipital pole	extreme rear end of cerebral hemisphere
occipitotemporal gyrus	fusiform gyrus
olfactory bulb	oval mass, front end of olfactory tract, lying under frontal lobe, and receiving olfactory nerves from nasal cavity
olfactory lobe	region under frontal lobe, including olfactory bulb, tracts, and trigone, parolfactory area, and anterior perforated substance to which the olfactory peduncle is attached
olfactory trigone	small triangular area in front of anterior perforated substance
opercula	edges of convolutions which surround fissure of Sylvius and conceal island of Reil

orbital gyrus	any one of the four gyri, anterior, lateral, medial, and posterior orbital, on the bottom surface of frontal lobe of cerebral hemisphere
orbital surface of cerebral hemispheres	lower surface
parietal gyrus/ascending	gyrus lying directly behind the fissure of Rolando, continued from central gyrus
parietal gyrus/posterior	area of cerebral hemisphere lying just above and behind the angular gyrus and intraparietal sulcus
parietal gyrus/superior	superior parietal lobule, along top of cerebral hemisphere, back of the central sulcus, above horizontal portion of intraparietal fissure
parietal lobe	lobe of cerebral hemisphere behind fissure of Rolando and in front of parieto-occipital fissure, extending down to level of fissure of Sylvius, thus occupying roughly the upper half of the region of the hemisphere behind the sulcus centralis, consists of precuneus, superior and inferior parietal gyri or lobules
parolfactory area	small triangular area on mesial surface of cerebral hemisphere in front of subcallosal gyrus, continuous below with olfactory trigone and above and in front with cingulate gyrus
pars basilaris	small area on outer surface of cerebral hemisphere, just back of pars triangularis and above fissure of Sylvius
pars orbitalis	small lobe of cerebral hemisphere on outer surface, extending down from inferior frontal gyrus above front end of fissure of Sylvius
pars triangularis	small lobe of cerebral hemisphere lying between pars orbitalis front and pars basilaris behind, above fissure of Sylvius
perforated substance/anterior	area in front of the optic tract and behind the olfactory trigone perforated with blood vessels, surface of olfactory tubercle
pituitary body	small body, largely glandular, connected with hypothalamus under cerebral hemispheres and projecting forward toward olfactory tracts
posterior central (or postcentral) gyrus	ascending parietal (or frontal) gyrus
precentral gyrus	ascending frontal gyrus
precuneus	quadrate lobe
prosencephalon	forebrain
psalterium	lyre shaped layer of fibers connecting rear parts of the fornix lying on either side of medial (or mesial) line, contains hippocampal commissure
pulvinar body	swelling on rear end of thalamus toward lateral side
putamen	outer (side) portion of lentiform nucleus striatum
quadrate lobe	region on inner surface of cerebral hemisphere, toward rear, between parieto-occipital fissure and mesial end of central sulcus
Reil/island of	region lying at the bottom of fissure of Sylvius and covered by portions of temporal, frontal, and parietal lobes, it covers the corpus striatum
rhinencephalon	olfactory lobes, hippocampi, and structures surrounding corpus callosum on mesial surface of cerebral hemisphere, olfactory brain
rostrum	thin, pointed, backward curved end of genu of corpus callosum
septum pellucidum	semi-transparent membrane continuous with and below corpus callosum toward rear between callosum and fornices, separating the two lateral ventricles of cerebral hemispheres
splenium	rear end of corpus callosum
stratum zonale	layer of white substance on upper surface of thalamus
subcallosal gyrus	narrow region on mesial surface of cerebral hemisphere, behind parolfactory area and below rostrum of corpus callosum, continuous with diagonal band of Broca
subcallosal fasciculus	longitudinal bundle of fibers between caudate nucleus and callosum
subfrontal gyrus	inferior frontal gyrus
substantia innominata (Meynert)	layer of gray and white substance below front part of thalamus and lentiform nucleus, lying in relation to optic tracts
subthalamic tegmental region (or subthalamus)	continuation of tegmentum of the midbrain upward between thalamus and internal capsule
supracallosal gyrus	thin layer on upper surface of corpus callosum extending out from the side of cingulate gyrus
supramarginal gyrus	gyrus encircling rear end of fissure of Sylvius
telencephalon	cerebral hemispheres, pre-optic regions of hypothalamus, and front portion of third ventricle

temporal gyrus/inferior	gyrus on outer surface of cerebral hemisphere at lowest part of side of head, under middle temporal gyrus
temporal gyrus/middle	gyrus at lower part of side of head between superior and inferior temporal gyri and parallel to them
temporal gyrus/superior, parallel gyrus	gyrus just below and parallel to fissure of Sylvius
temporal gyri, transverse	short gyri starting at bottom of fissure of Sylvius and running obliquely forward and outward on rear part of upper surface of superior temporal gyrus
temporal pole	front end of temporal lobe of cerebral hemisphere
temporal lobe	lobe forming lowest side portion of cerebral hemisphere, bounded above in its anterior portion by fissure of Sylvius
thalamus	portion of brain stem lying on either side of third ventricle, under cerebral hemispheres, in front of corpora quadrigemina, consists of metathalamus, dorsal thalamus, subthalamus, hypothalamus, and epithalamus
trigonum collaterale	triangular area in floor of lateral ventricle between posterior and inferior horns
trigonum habenulae	small triangular depressed area in front of superior colliculus
trigonum/olfactory	*see* olfactory trigone
tuber cinereum	conical swelling on the hypothalamus, under cerebral hemispheres, from which infundibulum arises
uncus	small hook-like region on inner surface of cerebral hemisphere at front end of hippocampal gyrus

B. FISSURES AND CAVITIES

calcarine fissure	fissure on mesial surface of cerebral hemisphere running forward from extreme rear, below cuneus, to join parieto-occipital fissure
callosal fissure	fissure on mesial surface of cerebral hemisphere separating top of corpus callosum from cingulate gyrus
callosomarginal fissure	fissure on mesial surface of cerebral hemisphere running from front near bottom successively forward, upward, and backward, forming upper boundary of cingulate gyrus and ending at top of hemisphere back of middle point
central sulcus	fissure of Rolando
cingulate sulcus	callosomarginal fissure
circular fissure	surrounding island of Reil
collateral fissure	on mesial surface of cerebral hemisphere at lower part of extreme rear, under gyrus lingualis and hippocampal gyrus
cornu, cornua^{pl}	horn (of lateral ventricle)
dentate fissure	short horizontal fissure on mesial surface of cerebral hemisphere above hippocampal gyrus
fimbriodentate fissure	separating dentate gyrus from fimbria of hippocampus
frontal sulcus/medial	fissure dividing middle frontal convolution into upper and lower portions
foramen of Monro	opening through which lateral ventricles communicate with third ventricle and each other, interventricular foramen
hippocampal fissure	on mesial surface of cerebral hemisphere starting behind rear end (splenium) of corpus callosum and running forward between hippocampal and dentate gyri to end in uncus
horn of lateral ventricle/anterior	portion entering frontal lobe
horn of lateral ventricle/descending	inferior horn
horn of lateral ventricle/inferior	largest portion of ventricle, entering temporal lobe
horn of lateral ventricle/posterior	portion entering occipital lobe
interpeduncular fossa	depression bounded in front by corpora mammillaria, behind by pons, and at sides by optic tracts and cerebral peduncles
interventricular foramen	foramen of Monro
intraparietal fissure	on outer surface of cerebral hemisphere, composed of postcentral sulcus, occipital ramus, and transverse occipital sulcus
lateral cerebral fissure	fissure of Sylvius, in reality a fossa
longitudinal cerebral fissure	deep cleft separating cerebral hemispheres
Monro/sulcus of	fissure from foramen of Monro to cerebral aqueduct, in side walls of the third ventricle
occipital fissure/lateral	short horizontal fissure on exterior surface of cerebral hemisphere at extreme rear and near the bottom

occipital fissure/transverse	short horizontal fissure at extreme rear of cerebral hemisphere running around from outer to mesial surface, continuous and at right angles with intraparietal
occipital ramus	fissure branching horizontally backward from postcentral fissure to occipital lobe
occipitotemporal fissure	on bottom surface of cerebral hemisphere extending from occipital to temporal regions
orbital sulcus	an H-shaped fissure on the bottom surface of a frontal lobe of the cerebral hemisphere, dividing the four orbital gyri from one another
parallel fissure	superior temporal fissure
paramesial sulcus	interrupted fissure on mesial surface dividing superior frontal gyrus into an upper and a lower portion
parieto-occipital fissure/horizontal	at extreme rear of cerebral hemisphere outer surface above level of transverse occipital fissure, extending on mesial surface of hemisphere as internal parieto-occipital fissure and joining calcarine fissure, these fissures forming two boundaries of cuneus
parieto-occipital fissure/internal	fissure on mesial surface of cerebral hemisphere continuous with external parieto-occipital fissure, running downward and forward to join calcarine fissure
postcentral sulcus	fissure just back of the posterior central gyrus, parallel to the fissure of Rolando
Rolando/fissure of (central sulcus)	deep fissure extending on outer surface of cerebral hemisphere from top of head just back of middle, downward and forward to a point near middle of fissure of Sylvius
Sylvius/fissure of	deep nearly horizontal cleft in cerebral hemisphere, separating frontal and parietal lobes from temporal lobe
temporal fissure/inferior	middle fissure on under (inferior) surface of cerebral hemisphere, traversing the temporal lobe from near the occipital pole to near the temporal pole
temporal fissure/middle	horizontal fissure on exterior surface of cerebral hemisphere below and parallel to superior temporal fissure and dividing middle from inferior temporal gyrus
temporal fissure/superior	two oblique fissures below and parallel to fissure of Sylvius
ventricle/fifth	space between two layers of septum lucidum, the partition separating the two lateral ventricles, not communicating with any other ventricle
ventricle/lateral	cavity in each cerebral hemisphere, continuous with cavities in thalamus, midbrain, hindbrain, and spinal cord
ventricle/third	vertical median slit in hinder portion of forebrain, between right and left thalami, communicating behind through aqueduct with fourth ventricle and in front with lateral ventricles, one in each cerebral hemisphere

C. NUCLEI

caudate nucleus	inner pair of the two large nuclei of corpus striatum, lying against front of thalamus and projecting into lateral ventricles
claustrum	layer of nerve cells on lateral surface of external capsule
corpus subthalamicum	nucleus of nerve cells on dorsal side of base of cerebral peduncle
interpeduncular ganglion	nerve centers in extreme caudal end of interpeduncular fossa
lateral nucleus	area of nerve centers in outer side of thalamus
lenticular nucleus	lentiform nucleus
lentiform nucleus	outer pair of two large nuclei of corpus striatum, surrounded by white matter of cerebral hemisphere, covered by claustrum and insula
nucleus amygdalae	ovoid mass of nerve cells at lower end of roof of inferior horn of lateral ventricle in pyriform lobe
nucleus of posterior commissure	nerve cells at upper end of cerebral aqueduct dorsad to oculomotor nucleus, posterior nucleus of thalamus

D. NERVE TRACTS

ansa lenticularis	strand of white fibers in substantia innominata, connecting corpus striatum with subthalamus and tegmental region
anterior stalk (or peduncle)	nerve fibers from thalamus through frontal part of internal capsule to frontal lobe

capsula extrema	layer of nerve fibers separating claustrum from cortex of island of Reil
capsule/external	layer of white substance on lateral side of lentiform nucleus between it and claustrum, continuous with internal capsule below and behind lentiform nucleus
capsule/internal	band of white fibers separating inner portion of lentiform nucleus from caudate nucleus in front and thalamus in rear
cerebrospinal fibers	fibers in internal capsule, running from motor region of cortex through pyramids of medulla to spinal cord
cingulum	bundle of association fibers contained within cingulate gyrus
commissure/middle	band (nerve tissue) connecting the two thalami
commissure of Gudden	fibers connecting medial (or mesial) geniculate bodies and lying in rear part of optic commissure
commissure/optic	optic chiasm
commissure/posterior	band of nerve fibers connecting posterior nuclei of thalamus with interstitial nuclei and lying over upper (anterior) end of aqueduct
corona radiata	fibers of internal capsule radiating to and from cerebral cortex
corpus callosum	great band of fibers connecting the two cerebral hemispheres
corticopontine fibers	nerve fibers connecting cortex with pons
fasciculus retroflexus	fibers connecting the trigonum habenulae with the interpeduncular ganglion
fimbria hippocampi	white fibers from crura of fornix forming a narrow band in hippocampal region, prolonged into uncus
forceps/anterior	fibers of corpus callosum curving forward from the genu into the *frontal lobe*
forceps/posterior	fibers of corpus callosum curving backward into occipital lobe
fornix	bundle of fibers below corpus callosum connecting hippocampus with mammillary bodies and habenula
fornix/columns of	bands of white fibers forming front portion of fornix, passing down in front of foramen of Monro and behind anterior commissure through lateral wall of third ventricle to mammillary bodies
fornix/crura of	flat bands of white fibers forming rear portion of fornix, curving round rear end of thalamus, and passing downward and forward into hippocampal region in inferior horn of lateral ventricle
geniculate fibers	fibers in genu of internal capsule, running from motor region of cortex to motor nuclei of cranial nerves on opposite side
habenular commissure	nerve fibers connecting nuclei in one trigonum habenulae with that on opposite side
hippocampal commissure	fibers connecting right hippocampus with left
longitudinal fasciculus/inferior	association fibers connecting temporal and occipital lobes, along lateral walls of inferior and posterior horns of lateral ventricle
longitudinal fasciculus/superior	long association fibers connecting frontal lobe with occipital and temporal lobes, passing above lentiform nucleus and island of Reil
lyra	hippocampal commissure
occipitofrontal fasciculus	association fibers connecting frontal lobe with occipital and temporal lobes, passing along lateral border of caudate nucleus and mesial side of corona radiata
optic chiasma	band of fibers at junction of floor and front wall of third ventricle, in which fibers from the nasal halves of the retinas cross to opposite optic tract, while those from temporal halves continue into that on the same side
optic commissure	optic chiasm
optic radiations	fibers passing from lateral geniculate body, pulvinar, and superior colliculus through occipital part of internal capsule to cortex of occipital lobe
optic tracts	fibers passing from optic chiasm to lateral geniculate body, pulvinar, and superior colliculus
perpendicular fasciculus	association fibers running vertically through front part of occipital lobe, connecting inferior parietal lobule with fusiform gyrus
stalk/inferior	fibers from under and medial surface of thalamus, passing under lentiform nucleus to temporal lobe and insula
stalk/parietal	fibers from lateral nucleus of thalamus to parietal lobe
stalk/posterior	nerve fibers from pulvinar through occipital part of internal capsule to occipital lobe, optic radiations, radiations of Gratiolet
stria terminalis	white fibers lying between caudate nucleus and thalamus, connecting nucleus amygdalae with pre-optic region (tuber cinereum)

tapetum	fibers of corpus callosum extending sidewards into temporal lobe, covering central part of lateral ventricle
thalamomammillary fasciculus	fibers from mammillary bodies to thalamus, bundle of Vicq d'Azyr
uncinate fasciculus	association fibers connecting frontal lobe with front end of temporal lobe, passing across front end of lateral fissure

II MIDBRAIN

A STRUCTURES AND LOCALITIES

brachium/inferior	white band extending from side of inferior colliculus, passing forward and upward under medial geniculate body
brachium/superior	white band extending from side of superior colliculus, passing forward and upward between pulvinar and medial geniculate body, arising partly in lateral geniculate body and partly in optic tract, and occipital cortex
colliculi/superior and inferior	the four corpora quadrigemina
corpora quadrigemina	four rounded prominences constituting dorsal part of midbrain, above and in front of superior peduncle, below and behind third ventricle and posterior commissure
crura cerebri	cerebral peduncles
crusta	base of cerebral peduncle, basis pedunculi
cerebral peduncles	lower portion of midbrain, consisting of two cylindrical masses emerging from upper surface of pons and passing into cerebral hemispheres
pineal body	cone-shaped body, largely glandular, projecting backward from habenular region over corpora quadrigemina
posterior perforated substance	layer of gray substance in interpeduncular fossa containing habenulopeduncular tracts and mammillary peduncle, perforated by blood vessels
stratum cinereum	layer of nerve cells and fibers in superior colliculus just under stratum zonale
stratum lemnisci	layer of fibers and nerve cells in superior colliculus immediately under stratum opticum, the fibers derived partly from stratum opticum and partly from mesial lemniscus
stratum opticum	layer of large nerve cells and fibers in superior colliculus just under stratum cinereum
stratum zonale	outer layer of white fibers, mostly from optic tract, in superior colliculus
substantia nigra	pigmented layer of gray substance separating dorsal and ventral portions of cerebral peduncle, containing many nerve cells, extending from upper surface of pons to subthalamic region
tegmentum	dorsal portion of cerebral peduncle

B. FISSURES AND CAVITIES

aqueduct (of Sylvius)	narrow prolongation of third ventricle under corpora quadrigemina, leading to fourth ventricle
interpeduncular fossa	depression between crura cerebri
lateral sulcus	longitudinal furrow on lateral surface of cerebral peduncle
oculomotor sulcus	longitudinal furrow along median surface of cerebral peduncle, from which roots of oculomotor nerve emerge
ventricle/third	space in thalamus under pineal gland, over hypophysis and mammillary body, and between the right and left lobes of thalamus, continuous with aqueduct in rear and lateral ventricles of cerebral hemispheres forward by the foramen of Monro at each side

C NUCLEI

interpeduncular ganglion	nerve cells in interpeduncular fossa at level of inferior quadrigemina
oculomotor nucleus	nerve cells extending under superior colliculus and into gray substance of third ventricle, giving origin to oculomotor nerve
red nucleus	nerve cells in front part of tegmentum, extending up to posterior part of subthalamic region, giving origin to rubrospinal tract

trigeminal nucleus	nerve cells extending alongside of pons and oblongata
trochlear nerve nucleus	nerve cells in ventral part of gray matter surrounding aqueduct, giving origin to trochlear nerve

D NERVE TRACTS

cerebrospinal fibers	fibers from motor area of cerebral cortex, passing through middle region of cerebral peduncle
fillet	lemniscus
frontopontine fibers	fibers from frontal lobe of cortex to nuclei of pons, passing through medial (or mesial) region of cerebral peduncle
lemniscus/lateral	afferent fibers starting in terminal cochlear and superior olivary, passing to inferior colliculus, some are prolonged through lateral geniculate body of thalamus and occipital part of internal capsule to middle and superior temporal gyri of cerebral cortex
lemniscus/medial (or mesial)	afferent nerve tracts starting in gracile and cuneate nuclei, crossing at sensory decussation, ascending in interolivary tract through medulla, occupying in pons the ventral part of reticular formation and tegmentum and further up dorso-lateral part of tegmentum between red nucleus and substantia nigra, mostly in the ventral lateral sensory nuclei of thalamus, upward continuation of posterior funiculus of spinal cord
medial (or mesial) longitudinal fasciculus	fibers in midbrain and oblongata lying on ventral side of aqueduct, below nuclei of oculomotor and trochlear nerves, continued below by anterior and lateral proper fasciculi of spinal cord
rubrospinal tract	efferent nerve tracts starting in red nucleus and passing down in lateral funiculus of spinal cord ventral to crossed pyramidal tract
tectospinal tract	efferent nerve tracts starting in superior colliculus, crossing and descending in tegmentum, mingling with those of median longitudinal bundle and vestibulospinal tract in spinal cord
temporopontine fibers	fibers from temporal lobe of cortex to nuclei of pons, passing along side of cerebrospinal fibers through crusta

III. HINDBRAIN CEREBELLUM

A. STRUCTURES AND LOCALITIES

anterior medullary velum	thin layer of white substance between superior cerebellar peduncles
cerebellum	largest portion of hindbrain and of brain with the exception of cerebral hemispheres, situate in lower part of back of skull
clivus	rear part of monticulus
culmen	front part of monticulus
epencephalon	generic term, syn for hindbrain
flocculus	part of cerebellar hemisphere furthest forward on under side, lying on either side of nodule of vermis
folium vermis	short band at rear end of vermis, connecting superior semilunar lobules of cerebral hemispheres
hemispheres/cerebellar	expanded portions of cerebellum at either side
lingula	front end of superior vermis lying on anterior medullary velum
lobes/crescentic, anterior, and posterior	lobes forming upper portion of cerebellum
lobe/semilunar	superior semilunar lobule and folium vermis taken together
lobules/biventral	lobes on under surface of cerebellum between tonsillar and inferior semilunar lobule
lobules/quadrangular, anterior, and posterior	largest lobules of upper surface of cerebellum
lobule/superior semilunar	lobules forming rear third of upper surface of cerebellar hemisphere
lobulus centralis	region in vermis just back of lingula
lobus noduli	region on under side of cerebellum including flocculi, posterior medullary velum, and nodule of vermis
lobus pyramidis	region on under side of cerebellum including pyramid and biventral lobules
monticulus	largest part of vermis, back of lobulus centralis and in front of folium vermis
nodule, nodulus	front end of inferior vermis, close to roof of fourth ventricle

peduncles/inferior cerebellar	fiber bands connecting cerebellum with back of medulla and spinal cord, restiform body
peduncles/middle cerebellar	band connecting pons with cerebellum, brachium pontis
peduncles/superior cerebellar	band connecting cerebellum with red nuclei and subthalamic region
posterior medullary velum	thin layer of white substance on either side of nodule of vermis, roof of fourth ventricle
pyramid, pyramis	conical projection on inferior vermis
restiform bodies	inferior cerebellar peduncles
tonsilla cerebelli	part of under side of cerebellar hemisphere on either side of uvula of vermis
tuber vermis	rear end of inferior vermis
uvula	largest portion of inferior vermis, behind nodule
vermis	median portion of cerebellum, between cerebellar hemispheres
vermis/inferior	part of vermis on under surface of cerebellum

B FISSURES AND CAVITIES

aperture/medial (or mesial)	opening in middle of roof of fourth ventricle through posterior medullary velum, foramen of Magendie
apertures/lateral	openings in roof of fourth ventricle at either side of medial aperture, foramina of Luschka
cerebellar notch/anterior	notch separating cerebellar hemispheres in front
cerebellar notch/posterior	notch separating cerebellar hemispheres in rear
horizontal sulcus	fissure across back of cerebellum dividing it into an upper and a lower portion
postcentral fissure	fissure in cerebellum between monticulus and lobus centralis
postnodular fissure	fissure across inferior vermis separating nodule from vermis
postpyramidal fissure	fissure across inferior vermis, separating pyramid from tuber vermis, continuing between tonsil and biventral, lobes of cerebellar hemispheres, along side border of inferior semilunar lobule
preclival fissure	fissure running across upper surface of cerebellar hemispheres, separating anterior from posterior quadrangular lobules, and crossing monticulus into culmen and clivus
prepyramidal fissure	fissure across inferior vermis, separating uvula from pyramid, curving forward between tonsil and biventral lobule, and joining postnodular fissure
sulcus valleculae	groove separating inferior vermis from cerebellar hemisphere on under surface
vallecula cerebelli	deep median groove on under surface of cerebellum, in which medulla rests

C NUCLEI

dentate nucleus	large group of nerve cells in interior of lateral lobes
nucleus emboliformis	group of nerve cells medial to dentate nucleus toward the median line
nucleus fastigii	group of nerve cells at front end of superior vermis and over the roof of the fourth ventricle
nucleus globosus	elongated group of nerve cells beside nucleus emboliformis toward the median line

D NERVE TRACTS

arcuate fibers	association fibers, connecting medulla with cerebellum
direct cerebellar tract	dorsal spinocerebellar fasciculus, Flechsig's tract
peduncles/inferior cerebellar	fibers from various regions of medulla, pons, and spinal cord, restiform body
peduncles/middle cerebellar	afferent fibers from cells of nuclei pontis to cerebellar cortex
peduncles/superior cerebellar	fibers from cells of dentate nucleus, passing under corpora quadrigemina, crossing to opposite side under aqueduct the efferent fibers go to red nucleus and subthalamus
spinocerebellar tract/dorsal	afferent fibers from spinal cord passing through inferior peduncle to upper vermis
spinocerebellar tract/ventral	afferent fibers from spinal cord over superior peduncle to lower vermis

TABLES

IV HINDBRAIN MEDULLA AND PONS

A. STRUCTURES AND LOCALITIES

ala cinerea — small area in floor of rhomboid of fossa just lateral to trigonum hypoglossi, over sensory nuclei of vagus and glossopharyngeal nerves

anterior columns — continuation of anterior columns of spinal cord

area acustica — swelling in rhomboid fossa at side, vestibular area containing vestibular nuclei

bulb — medulla oblongata

clava — swelling on fasciculus gracilis containing nucleus gracilis

calamus scriptorius — angle on floor of fourth ventricle where columns of Goll diverge at lower end of rhomboid fossa

cuneate tubercle — swelling on fasciculus cuneatus containing nucleus cuneatus

decussation of pyramids — oblique crossing of cerebrospinal or corticospinal fibers from each side of medulla to the other, over anterior median fissure

decussation/sensory — region in medulla where fibers from nucleus gracilis and nucleus cuneatus on each side cross and interlace with those from opposite side

eminentia acustica — large prominences on floor of fourth ventricle over nucleus of abducens nerve

eminentia teres — prominence on floor of fourth ventricle over nucleus of abducens nerve

formatio reticularis — network of fibers and nerve cells in central regions of medulla oblongata

inferior cerebellar peduncles — restiform bodies

medulla oblongata — thickened floor or anterior part of hindbrain, directly continuous with upper portion of spinal cord containing centers for lower seven cranial nerves

middle cerebellar peduncle — fibers from pons Varolii to cerebellar cortex, syn brachium pontis

olives, olivary bodies/superior — elevated regions on upper end of medulla oblongata, lying one on either side of pyramids

pons, pons Varolii — portion of hindbrain directly in front of cerebellum, its ventral part consisting of transverse fibers arching across medulla, or middle cerebellar peduncle, its dorsal part enclosing upper part of rhomboid fossa and continuing the reticular formation of the medulla

posterior columns — continuation of posterior columns of spinal cord, i e , fasciculus gracilis and fasciculus cuneatus

pyramids — elevated regions on front of medulla lying one on either side of anterior median fissure, formed by cerebrospinal tracts

restiform bodies — rope-like elevations behind olives on rear surface of medulla, passing upwards and outwards to cerebellum inferior peduncles

taeniae of fourth ventricle — bands of white matter crossing the auditory eminence of fourth ventricle, lines of attachment of choroid plexus and posterior medullary velum

trigonum hypoglossi — elevation on floor of fourth ventricle over nucleus of hypoglossal nerve

trigonum vagi — elevation on the floor of fourth ventricle over nuclei of vagus and glossopharyngeal nerves

B FISSURES AND CAVITIES

dorsal intermediate fissures — fissures on rear surface of medulla parallel to and on either side of fasciculus gracilis

dorsal median fissure — fissure running along the length of spinal cord on its rear part ending at obex, or calamus scriptorius

dorso-lateral fissures — fissures on front of medulla parallel to antero-lateral fissures but further toward the sides

foramen cecum — enlargement of anterior median fissure of medulla at lower border of pons

median fissure of rhomboid fossa — longitudinal fissure dividing fossa into right and left halves

rhomboid fossa — floor of fourth ventricle (so called from its shape)

sulcus limitans — fissure parallel to and on either side of median sulcus of rhomboid fossa

ventral median fissure — running along length of spinal cord and medulla in front

ventricle/fourth — cavity between cerebellum and pons and upper half of medulla, continuous below with central canal of medulla and spinal cord and above with aqueduct and third ventricle

ventro-lateral fissures — fissures on front of medulla on either side of and parallel to pyramids

C. NUCLEI

abducens nerve nucleus — nerve cells in floor of fourth ventricle, giving origin to abducens nerve

cochlear nucleus/lateral — nucleus on dorsal side of inferior cerebellar peduncle, ventral or accessory, on ventral lateral side of inferior peduncle

cuneate tubercle — swelling on fasciculus cuneatus on posterior surface of medulla, containing nucleus cuneatus

Deiters/nucleus of — lateral vestibular nucleus

dorsal motor nucleus of vagus — nerve centers lying parallel to hypoglossal nucleus toward the back and side and extending from lowest part of medulla to level of olive, its fibers belong to sympathetic part of vagus

facial nerve nucleus — nerve cells in reticular formation of pons, on back of the superior olivary nucleus, origin of facial nerve

gracile tubercle — nucleus of gray matter on column of Goll on posterior surface of medulla

hypoglossal nucleus — nerve centers lying on under side of central canal in lower part of medulla, in upper part ending near rhomboid fossa in middle line, origin of hypoglossal nerve

inferior central nucleus — small nucleus near inferior olivary nucleus, in *formatio reticularis*

lateral nucleus, nucleus lateralis — cell groups in lateral side of oblongata below inferior olives, giving origin to latero-cerebellar fibers (external arcuate)

medial (or mesial) nucleus, cuneatus — larger part of nucleus cuneatus

nucleus ambiguus — nerve centers on front surface of medulla extending from sensory decussation to upper end of medulla, origin of accessory nerve and motor fibers in vagus and glossopharyngeal nerves

nucleus arcuatus — nerve cells in anterior external arcuate fibers over pyramid, continued forward in nucleus pontis

nucleus cuneatus — nerve centers on fasciculus cuneatus on rear of medulla

nucleus gracilis — nerve centers on fasciculus gracilis on rear of medulla, origin of mesial lemniscus

nucleus intercalatus — nerve cells at side of hypoglossal nucleus

nuclei pontis — nerve centers of pons, origin of middle cerebellar peduncles

olivary nuclei/inferior — nerve centers within olive, medial accessory, between inferior olivary nuclei and pyramid, dorsal accessory, behind inferior olivary nuclei, superior, on dorsal surface of side of trapezoid body

tractus solitarius/nucleus of — long slender nucleus running length of medulla, parallel in upper portion to and on outer side of dorsal motor nucleus

trapezoid nucleus — nerve cells in trapezoid body

trigeminal nerve nucleus (motor) — nerve cells in upper part of pons near rear surface and along lateral margin of medulla oblongata, end of trigeminal nerve

tubercles of Rolando — sensory nuclei in medulla above sensory decussation

vestibular nucleus/lateral — nerve cells in lateral angle of rhomboid fossa

vestibular nucleus/mesial — nerve cells in mesial part of acoustic (vestibular) area

vestibular nucleus/superior — nerve cells in upper part of area acustica (vestibularis) in rhomboid fossa

D NERVE TRACTS

arcuate fibers/anterior external — afferent fibers near surface of pyramid and olive, from reticular formation, crossing to opposite side on external surface and entering cerebellum through inferior peduncle

arcuate fibers/internal — fibers from gracile and cuneate nuclei forming larger part of mesial lemniscus

arcuate fibers/posterior external — afferent fibers from nucleus lateralis and probably cuneate nuclei passing into inferior peduncle on same side

cerebrospinal fasciculi (or tracts)/anterior and lateral — efferent tracts originating in motor area of cortex and passing downward through internal capsule, cerebral peduncle, and pons,

	crossing to opposite side in pyramidal decussation to descend and end in entire length of cord
fasciculus cuneatus	tract of afferent nerve fibers on rear of medulla lying parallel to and further toward the side than fasciculus gracilis, separated from it by posterior intermediate fissure, ending in nucleus cuneatus
fasciculus gracilis	tract of afferent nerve fibers on rear of medulla along the side of posterior median fissure, ending in nucleus gracilis
fillet	band of afferent fibers arising in cuneate and gracilis nuclei, running up in medulla just behind pyramidal tracts and crossing in sensory decussation
lemniscus	fillet
medial (or mesial) longitudinal fasciculus	longitudinal fibers near floor of fourth ventricle on each side of median fissure
olivocerebellar fibers	afferent fibers from inferior olivary nuclei, passing around and through opposite olives and entering cerebellum by inferior peduncle
proper fasciculi	fibers in formatio reticularis and medial longitudinal fasciculus
spinocerebellar tract/dorsal	afferent tracts from spinal cord passing to vermis through inferior peduncle, some through lemniscus and superior peduncle
spinocerebellar tract/ventral	afferent fibers from spinal cord near level of inferior colliculus, reaching vermis
spinotectal tract	fibers from dorsal horn of spinal cord, joining portion of mesial lemniscus, passing to tectum or superior colliculus of midbrain
spinothalamic tract/lateral	sensory tracts through formatio reticularis to ventro-lateral region of thalamus
striae medullares (acusticae)	secondary acoustic fibers from dorsal cochlear nucleus crossing inferior peduncles near their entrance into cerebellum, and leading to median sulcus of rhomboid fossa
superficial antero-lateral fasciculus	ventral spinocerebellar, lateral spinothalamic, spinotectal, and ventral spinothalamic fasciculi
trapezoid body	strand of transverse fibers in lower part of pons, arising from cells of cochlear nucleus, beginning and decussation of lateral lemniscus

V CRANIAL NERVES

abducens nerve (VI)	sixth cranial nerve efferent to external rectus eye muscles, leaving brain from furrow between lower border of pons and upper end of pyramid of medulla
accessory nerve/cranial (XI)	portion of eleventh cranial nerve, efferent to pharyngeal, leaving side of medulla below vagus nerve
accessory nerve/spinal (XI)	portion of eleventh cranial nerve, spinal portion supplies sternomastoid and trapezius muscle, accessory portion joins vagus and enters into formation of pharyngeal plexus
auditory nerve (VIII)	eighth cranial nerve, afferent from cochlea and labyrinth, entering medulla in floor of fourth ventricle under middle cerebellar peduncle just below facial nerve
facial nerve (VII)	seventh cranial nerve, efferent to facial muscles and afferent from taste organs, leaving brain at lower border of pons between olive and inferior cerebellar peduncle
glossopharyngeal nerve (IX)	ninth cranial nerve, afferent from back of tongue and throat, entering brain in groove between olive and inferior cerebellar peduncle just below auditory nerve
hypoglossal nerve (XII)	twelfth cranial nerve, efferent to tongue, leaving brain from anterolateral sulcus between pyramid and olive, below cranial accessory nerve
oculomotor nerve (III)	third cranial nerve, efferent to accommodation, internal rectus, superior rectus, inferior rectus, and inferior oblique muscles of the eye, leaving brain from oculomotor sulcus on medial (or mesial) side of cerebral peduncle
olfactory nerve (I)	first, i e , most anterior, cranial nerve, afferent from smell sense organ, entering brain through under surface of olfactory bulb
optic nerve (II)	second cranial nerve, afferent from retina, entering brain through optic chiasm and optic tracts
patheticus nerve (IV)	syn for trochlear nerve
pneumogastric nerve (X)	syn for vagus nerve

trigeminal nerve (V)	fifth cranial nerve, mostly afferent from face, entering brain near upper border of side of pons
trochlear nerve (IV)	fourth cranial nerve, efferent to superior oblique eye muscles, leaving brain from anterior medullary velum just behind inferior colliculus
vagus nerve (X)	tenth cranial nerve, efferent and afferent fibers to pharynx, larynx, windpipe, lungs, esophagus, stomach, pancreas, upper part of intestine, and heart, attached to brain in groove between olive and inferior cerebellar peduncle immediately behind glossopharyngeal nerve, it has afferent and two efferent components

VI SPINAL CORD

A. STRUCTURES AND LOCALITIES

cervical enlargement	enlargement of spinal cord at level of arms, where nerves to arms are given off
conus medullaris	conical lower extremity of spinal cord
crossed commissural fibers	axons crossing to opposite side of cord through anterior commissure
dorsal gray columns	dorsal columns of gray matter in spinal cord, syn dorsal horns
dorsal funiculus	portion of spinal cord lying between posterior median fissure and dorsolateral fissure, fasciculus gracilis, and cuneatus
dorsal gray commissure	gray substance in cord mainly behind central canal
dorsal horns	dorsal enlargement of the column of gray matter in the spinal cord
dorsal nerve root	afferent nerve fibers of each spinal nerve, entering cord in posterior column
dorsomedial column	column of nerve cells in anterior column behind anteromedial column
filum terminale	filament of pia mater passing down from conus medullaris and attached to first segment of the coccyx
formatio reticularis	network of gray substance in the lateral funiculus between anterior and posterior gray columns
lateral column	side projection from anterior column in thoracic region of spinal cord, containing spinal sympathetic nucleus
lateral cornu or horn	lateral column
lateral funiculus	part of anterolateral region nearest the posterolateral sulcus, the anterior and lateral funiculi are separated by the line of exit of the anterior spinal nerve roots
Lissauer/tract of	thin layer of white substance separating dorsal column from dorsolateral fissure, fine myelinated and non-myelinated fibers from dorsal nerve roots
lumbar enlargement	enlargement of spinal cord at lower level of cord where nerves to legs are given off
root zone	lateral part of posterior column formed by entering posterior nerve roots
substantia gelatinosa centralis	neuroglia around central canal
substantia gelatinosa of Rolando	neuroglia and small nerve cells around dorsal margin of the dorsal horn
ventral gray columns	front enlargements, on either side of the anterior median fissure, of the column of gray matter of which the gray commissure is the central portion
ventral cornu or horn	anterior gray column
ventral funiculus	part of anterolateral funiculi region nearest anterior median fissure
ventral gray commissure	gray substance in cord directly in front of central canal
ventral nerve root	region where efferent nerve fibers of each spinal nerve leave cord from anterior gray column
ventrolateral region	portion of spinal cord lying in front of posterolateral sulcus
ventromedial column	column of nerve cells in medial (or mesial) part of anterior column

B FISSURES AND CAVITIES

canal of spinal cord/central	very slender canal running inside the cord for its whole length
dorsal median fissure	shallow and narrow groove along middle of back of spinal cord
dorso-intermediate sulcus	longitudinal furrow in cervical and upper thoracic regions of posterior funiculus, marking position of a septum dividing fasciculus gracilis from fasciculus cuneatus

dorsolateral sulcus	furrow on either side of dorsal column, along which posterior nerve roots are attached
terminal ventricle	dilated portion of central canal in lower part of conus medullaris
ventral median fissure	groove along middle of front of spinal cord

C NUCLEI

cervical nucleus	nerve cells in spinal cord opposite third cervical nerve
Clarke/column of	dorsal nucleus
dorsal nucleus	nerve cells in base of dorsal column of spinal cord, running from levels of second or third lumbar to last cervical or first thoracic nerve, origin of dorsal spinocerebellar tract
sacral nucleus	nerve cells in middle and lower part of sacral region of spinal cord
spinal ganglion	oval swelling, one on posterial root of each spinal nerve, containing nerve cells

D. NERVE TRACTS

Burdach/columns (or tracts) of	spinobulbar tracts lying between columns of Goll and dorsal cerebellar tracts, fasciculus cuneatus
direct cerebellar tract	dorsal spinocerebellar fasciculus
fasciculus cuneatus	portion of dorsal funiculus lying between fasciculus gracilis and posterior column of gray matter, its longest columns end in nucleus cuneatus of medulla
fasciculus gracilis	portion of dorsal funiculus lying nearest dorsal median septum, its fibers end in nucleus gracilis of medulla
Goll/columns (or tracts) of	spinobulbar tracts on either side of dorsal median fissure in spinal cord, fasciculus gracilis
Gowers/tract of	superficial anterolateral fasciculus, ventral spinocerebellar tract
lateral cerebrospinal tract	tract of efferent fibers extending the whole length of lateral funiculus of spinal cord, inside of spinocerebellar fasciculi, originating in cortical motor area, crossing to opposite side in medulla, and ending in anterior gray column of cord (Voluntary motor impulses)
lateral fasciculus proprius	innermost side tracts of afferent fibers in spinal cord
Lissauer/fasciculus of	tract of small afferent fibers lateral to entrance of posterior nerve roots
olivospinal fasciculus	tract of fibers passing beside inferior olivary nucleus in medulla and found in cervical region of spinal cord
posterior proper fasciculus	tract of intersegmental fibers lying behind posterior gray columns
prepyramidal tract	syn for rubrospinal tract
pyramidal tracts	the principal cerebrospinal tracts
pyramidal tracts/crossed	lateral cerebrospinal fasciculus, lying at either side toward rear of cord between ventral horns and dorsal spinocerebellar tracts
pyramidal tracts/direct	lying on either side of the anterior median fissure
reticulospinal tracts	fibers from tegmental region and reticular nuclei in midbrain, pons, and medulla to spinal cord
rubrospinal tract	tract of efferent fibers on ventral side of lateral cerebrospinal fasciculus, originating in red nucleus of midbrain and ending in anterior column of cord (Cerebellar striatal reflexes)
spinobulbar tracts	columns of Goll and Burdach, leading to gracile and cuneate tubercles on medulla
spinocerebellar tract/dorsal	tract of afferent fibers at extreme outside of lateral funiculus
spinocerebellar tract/ventral	tract of afferent fibers running in front of dorsal spinocerebellar fasciculus from level of third lumbar nerve to cerebellum
spinotectal tract	tract of afferent fibers in front of lateral spinothalamic fasciculus, ending in corpora quadrigemina
spinothalamic tract/lateral	tract of afferent fibers on inner side of ventral spinocerebellar fasciculus, running to ventrolateral region of thalamus
spinothalamic tracts	(afferent) nerve-tracts on front of spinal cord leading to thalamus
spinothalamic tract/ventral	tract of afferent fibers in marginal part of anterior funiculus of spinal cord, probably ending in thalamus (cutaneous sensibility)
superficial anterolateral fasciculus	tract of afferent fibers including ventral spinocerebellar, lateral spinothalamic, spinotectal, and ventral spinothalamic
tectospinal fasciculus, tectospinal tracts	efferent nerve-tracts at sides of spinal cord toward front, leading from superior corpora quadrigemina into cord

TABLES

ventral cerebrospinal fasciculus	tract of efferent nerve fibers from motor area of cerebral hemispheres crossing to opposite side in medulla and ending in anterior column of spinal cord
ventral proper fasciculus	tract of fibers surrounding gray matter beginning and ending within cord
estibulospinal tracts/direct	efferent fibers chiefly from cells of lateral vestibular nucleus in rhomboid fossa, passing down through marginal part of anterior funiculus of the spinal cord and ending among motor cells of anterior column
vestibulospinal tracts/crossed	efferent nerve-tracts at sides of spinal cord toward front, leading from nuclei of vestibular nerve into cord

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GLOSSARY OF FRENCH TERMS

Note Where there are given in the body of the Dictionary two or more definitions of any one of the following English equivalents, the figure in parentheses after the equivalent indicates which of these dictionary definitions applies to the foreign word

A

abaissement de soi-même, self-abasement
abattement, grief
abcès cérébral, abscess of the brain
aberration de la lumière, aberration of light
aberration de sphéricité, spherical aberration, s error
abréaction, abreaction
abreviation de réaction, abridgment of response
absorption, self-absorption
accent caractéristique de l'écriture, writing accent
accès de colère, tantrum
accès épileptiforme, epileptiform seizure
accomplissement, performance
accord, chord (1)
accord à trois sons, triad
accord consonant, concord
accorder, tune[v]
accouplement, pairing
accoutumance, habituation
acide, sour
acquisition associative, associative learning
acquisition du tout et des parties, whole and part learning
acquisition, learning (3, mental)
acquisition/finale, acquisition initiale, attainment/final, /initial
acquisition mentale, ideational learning
acte de téter, suckling (1)
acte malheureux, unsuccessful act
actinie, sea-anemone
action globale, mass action
action réussie, successful act
activité, speeding up
activité propre, self-activity
adaptation à l'obscurité, dark adaptation, darkness adaptation
adaptation d'apprentissage, adaptation in learning
adaptation lumineuse, bright adaptation
adoration, worship (1)
affaiblissement, deterioration
affect, affect
affection, attachment (2), feeling (1)
affirmer, posit
affirmation de soi, self-assertion
âge critique, climacteric, climacterium
âge de procréation, child bearing age
âge de rendement, achievement age
agent, reagent (3)
agir, act[v], behave
agitation, restlessness
agrandissement, growth (2)
agrément, agreeableness
agressivité, aggressiveness,
aigu, acute, sharp (2)
aimant, liking
aimer, like[v]
air, tune[n]
aire, area
aire analgésique de la joue, (Kiesow's) painless cheek-area
aire de Broca, Broca/area of
aire motrice, motor area
aire olfactive, olfactory area
aires sensorielles, sensory areas
ajustement, set
ajustement mental, mental set
ajustement préparatoire, preparatory set
alcoolisme aigu, alcoholism/acute
aliénation mentale, insanity
alignement, array
aliment, nutriment
allaitement, suckling (2)
alogique, unreasoning
ambiance, environment
âme, soul (1)
amer, bitter
amitié, friendship
amortissement, damping
amour, love
amour de soi, self love
amour platonique, platonic friendship
ampèremètre, ammeter
amusical, unmusical
amygdale, tonsil
analyze, resolution (3)
analyze de la profession, job analysis
anesthésie en gant, anesthetic glove
anglaise, script
angoisse, anxiety
antagonisme des champs visuels retinal rivalry
anthropoïdes, apes
anticorps, antibody
antipathie, dislike
anxieté, anxiety
appareil, apparatus
appareil de von Frey pour mesurer le seuil de pression, von Frey limen gauge
appareil mental, apparatus/mental,
appareil pour mesurer le seuil, limen gauge
appareil pour mesurer la stabilite motrice, steadiness apparatus
appareil sensoriel accessoire, accessory sense-apparatus
appareil terminal, end-organ
apparence, appearance
appât, reward
appétence, urge
appréciation, judgment (2), rating[n]
appréciations (estimations) personnelles, self rating
apprendre par cœur, memorize
apprentissage, learning (1, 2, motor)
apprentissage (acquisition) global (fractionné), whole and part learning
apprentissage (acquisition) infraliminaire, subliminal learning
apprentissage (acquisition) massé, massed learning
apprentissage mental, ideational learning
apprentissage moteur, motor learning
apprentissage (acquisition) occasionnel, incidental learning
apprivoisement, taming
appropriation, propriety
approprié[a], propriety
apte[a], fit
arrêt, inhibition, blocking (1)
arrêter, check[v] (1)
arrièration, backwardness
arrièration mentale, retardation/mental
arrière-cerveau, hind-brain
arrieré simple, moron

ascendant, ascendence, ascendance
asensorial, non-sensory
asile, asylum
asocial, non-social, unsocial
assentiment, consent
association dirigée, controlled association
association héréditaire, linkage
association libre, free association
associations rétrogrades (à rebours), backward associations
assoupissement, drowsiness
astérie, starfish
asymétrie, skewness
attaque, fit, stroke (or shock)
atteinte, injury (1)
attente, expectation
attention à niveau unique, one-level attention
attester, witness
attribuer des poids, weighting
audition, audition
audition (ouïe) binaurale, binaural hearing
audition coloree, colored hearing
audition monauriculaire, monaural (or uniaural) hearing
au hasard, random[a]
auréole, halo
auto-accusation, self-accusation
auto-duperie, self deception
autorité, ascendence, ascendance
l'autrui, other/the
avancement, proficiency
avantageux, beneficial
aveuglement, blindness
avis, opinion
avoir l'intention de, intend[v]
axone, axon

B

baguette de Maddox, Maddox rod
baguette divinatoire, divining rod
baillement, yawning
bande, gang
barème de fréquence, frequency table
bâtonnet rétinien, rod/retinal
battement, beat
battement binaural, beat/binaural
batterie de tests, battery
beauté, beauty
begaiement, stuttering
bémol, flat (2)
besoin, need, want
biais, bias
bien doué, gifted
bien-être, well being
bienveillance, kindness
binauriculaire (binaural), binaural
blanc, white
blessure, injury (1)
bleu cyanique, peacock (blue)
blocage, blocking (1)
blocage du nerf, nerve block
bobine d'induction, induction coil
boîte avec mécanismes cachés, problem box
bon, good
bonheur, happiness
bonté, kindness
bouderie, sulkiness
bougie, candle
bouleversement, upset[n]
bourgeon gustatif, taste bud
brillance, brightness
bruit, noise
brûlant, hot
bulbe, medulla oblongata
but, aim, goal

C

caché, cryptic
canal de l'épendyme, canal/central, canalis centralis
canal déférent, vas deferens
canaux semi-circulaires membraneux, semicircular ducts
canaux semi-circulaires osseux, semicircular canals, semicirculars
canon d'accord, agreement/canon (or method) of
capacite, ability
capacite d'acquisition (d'apprentissage), learning capacity
capacité d'appréhension, memory span
capacité spécifique, specific ability
capacités differenciées, differentiable abilities
capacités spéciales, special abilities
caprice, fad
capsules surrénales, adrenal glands
caractère acquis, acquired character
caractères enchaînés, linked characters
caractères pour l'examen de l'acuité visuelle, test chart, test card
carre de lettres, letter square
carrière, career
cartouches de soupèsement, cartridge weights
caryoplasure, karyoplasm
cas marginaux, borderline cases
categorie inferieure, lower category
cauchemar, nightmare
cauchemar éveillé, daymare
cause efficace, efficient cause
cause formelle, formal cause
cavité de la conque, concha
cavité (creux) tympanique, tympanic cavity
cécité, blindness
cécité au bleu, blue-blindness
cécité au bleu-jaune, blue-yellow blindness
cécité au rouge-vert, red green blindness
cécité aux couleurs, color-blindness
cécité chromatique, color-blindness
cécité corticale, mind-blindness
cécité crépusculaire, moon-blindness, night-blindness
cécité des glaciers, snow blindness
cécité diurne, day-blindness
cécité fonctionnelle, blindness/functional
cécite mentale, mind-blindness
cécité nocturne, night-blindness
cécité psychique, object-blindness, psychic blindness
cécité verbale, text blindness, word-blindness
ceinture de Hitzig, Hitzig girdle
cellule, cell
cellule apolaire, apolar cell
cellule bipolaire, bipolar cell
cellule germinale, germ-cell
cellule photo-électrique, photo electric cell
cellules ciliées, hair cells
cellules de Betz, Betz cells
cellules de Deiters, Deiters' cells
censure de rêve, dream censorship
censure sociale, social censorship
centile, percentile
céphalée, headache
cercle chromatique, color circle
cerveau, brain, cerebrum
cerveau antérieur, forebrain
cerveau moyen, midbrain
cerveau postérieur, hindbrain
cervelet, cerebellum
chagrin, grief, sorrow
chaîne d'actes réflexes, chain reflex
chaise tournante, rotation chair
chaleur, heat (1)
chaleur paradoxale, paradoxical warmth
champ auditif, audibility range
champ d'attention, attention/range (or span) of
champ de conscience, consciousness/field of
champ de mémoire immédiate, memory span
champ des tons audibles, audibility range
champ phénomenal, phenomenal field
champ récepteur, receptor field
champ tactile, field of touch

champ tubulaire, field/tubular
champ visuel, field of vision visual field
chanvre indien, Cannabis indica
charme, spell
chasse, hunting, hunting behavior
châssis de rotation de Mach, Mach rotation frame
chatiment, punishment
chatouillement, tickle
chevaux d'Elberfeld, Elberfeld horses
choc, collapse
choix, choice, selection
choix objectal, object-choice
chorée, chorea
chorium, corium
chose, thing
chronomètre de chute, fall chronometer
chronoscope à étincelle, spark chronoscope
chuchotement, whispering
cinéma, motion picture
cinématographie stéréoscopique, stereoscopic motion pictures
circonvolution, convolution, gyre, gyrus
circonvolution de l'hippocampe, uncinate gyrus
clair, light (1)
clarte, brilliance, clearness
clef de réaction, reaction (or response), key
clef labiale, lip-key
clef vocale, voice key
clignement, blinking
cloaque, cloaca
cloche des tons, tonal bell
cloison, membrane
clonus de la cheville, ankle clonus
clou hystérique, clavus hystericus
co-conscience, co-consciousness
coefficient d'acquisition (d'apprentissage), learning coefficient
coefficient de correlation des produits-moments, product moment coefficient of correlation
coefficient du rapport chroma-brilliance, chroma-brilliance coefficient
cœur, heart
cohérence, reliability (2), self-consistency
coït, coition, coitus
colère, anger
collapsus, collapse
colonne vertébrale, spine
coloration tonale, tone-color
combativité, pugnacity
comique, ludicrous[n]
comme il faut[a], propriety
commençant, incipient
communautes fourmis, ant communities
comparaison decalee, slip comparison
complexe refoulé, repressed complex
complexus, pattern (2)
complexus de pression, pressure pattern
complexus de pression et douleur, pressure-pain pattern
complexus de réaction, pattern reaction
complexus émotionnel, emotional pattern
complexus nerveux, neural pattern
comportement, behavior, behaviour
comportement d'accouplement, mating behavior
comportement animal, animal behavior
comportement apopathetique, apopathetic behavior
comportement collectif, group behavior
comportement en serie, serial behavior
comportement envers l'aliment, food response, food-getting behavior
comportement instinctif, instinctive behavior
comportement maternel, maternal behavior
comportement parental, parental behavior
comportement pluraliste, pluralistic behavior
comportement rationnel, rational behavior, rational conduct
comportement social, social behavior
comportement verbal, verbal behavior
composé, compound
composé mental, compound/mental
compréhension, understanding
compulsion de répetition, repetition-compulsion
concurrence vitale, struggle for existence
condition, condition[n] (1, 2)
condition physiologique, physiological state
conditions ambiants, environment
conduction aérienne, air conduction
conduction avec decrément, conduction with decrement
conduire, conduct[v]
conduit auditif externe, meatus/external auditory
conduit auditif interne, meatus/internal auditory
conduit endolymphatique, endolymphatic duct
conduite, behavior, conduct[n]
confusion mentale, clouding of consciousness
congenital, connate
congru, congruous
congruent, congruent
conjugaison, conjugation
connaissance, cognition, knowledge
connaissance de soi, self-knowledge
connaissance du monde extérieur, external world
connaissance intuitive, insight
connaissance profonde dans l'acquisition, learning/insight in
connaître, knowledge
consanguinité, kinship
conscience, consciousness
conscience collective, group consciousness
conscience de classe, consciousness of kind
conscience de liberté, freedom/consciousness of
conscience de rapport, relation/consciousness of
conscience de similitude, consciousness of kind
conscience de soi, self-conscious ness
conscience dissociée, split off consciousness
conscience sociale, tribal self
consentement, assent
conservation personnelle, self-preservation
constance, reliability (3)
constant d'amortissement du son, damping constant
contenu, content[n]
contenu de la conscience, content of consciousness
contenu de rêve, dream-content
contraction, contraction
contraction de faim, hunger contraction
contraction isométrique, isometric twitch
contraction musculaire spasmodique, muscular twitching
contraction spasmodique, twitching
contraindre, constrain
contrainte, compulsion
contrainte de répétition, repetition compulsion
contraste lumineux, brilliance contrast
contravention, misdemeanor
contrôle de la procréation, birth control
contrôler, check[v] (2)
convaincre, convince
convenable[a], propriety
convenable, right[a]
convenance, propriety, decency

convoitise, lust
coquetterie, coyness
corde dorsale, notochord
corne d'Ammon, horn of Ammon
corporel, corporal[n], corporeal
corps, body
corps astral, astral body
corps calleux, callosum, corpus callosum
corps cellulaire, cell body
corps de métier, craft
corps genouillé latéral, geniculate body/lateral
corps genouillé médial, geniculate body/medial
corps olivaires, olives, olivary bodies
corps polaire, polar body
corps trapézoide, trapezoid body
correct, right[n]
corrélation illegitime, spurious correlation
correlation par la méthode des rangs, rank correlation
cortex, cortex
couche bacillaire, bacillary layer
couche cérebrale, cerebral layer
couche choroide, choroid (or chorioid), choroid coat
couche de cellules ganglionnaires, ganglion cells/layer of
couche des bâtonnets et des cônes, layer of rods and cones
couche élastique de Sattler, Sattler's elastic layer
couche fibreuse, fibrous layer
couche ganglionnaire, vesicular layer
couche germinale, germ layer
couche granulaire externe, granular layer/outer
couche granulaire interne, granular layer/inner
couches de la paupière, coats of eyeball
couches optiques, thalamus, optic thalamus
couches rétiniennes, retinal layers
couleur de température, color temperature
couleur du son, clang-color, clang-quality, clang-tint
couleur inductive, inducing color
couleur induite, induced color
couleur pelliculaire, film color
couleur volumineuse, bulky color
coups, raps
courant, current
courant de la conscience, stream of consciousness stream of thought
courant de lésion, injury/current of
courant de repos, current of rest
courbe, curve
courbe cumulative de progrès, band chart
courbe d'apprentissage (d'acquisition), learning curve
courbe d'apprentissage de Vincent, Vincent learning curve
courbe d'entrainement, practice curve
courbe de force-durée, strength-duration curve
courbe de repos, curve of rest
courbe de travail, work curve
courbe polie, smooth curve
courbure, flexure
cours de la pensée, stream of thought, thinking/stream of
courtiser, philander
coutume, custom
crainte, dread
crainte révérencieuse, awe
crampe des ecrivains, writer's cramp
crayon des tons, tonal pencil
crèche clinique, clinical crib
crête, crest
crête neurale, neural crest
crêtes ciliés des ampoules, hair cells of ampullae
crins de von Frey, von Frey hairs
crise, seizure
crise émotionnelle, brain-storm
crises hysteriformes, hysteriform seizures
cristallin, lens, crystalline lens
cristalloscopie, scrying
critique, criticism
crochet-support rotatif, carrier bracket
croissance, growth (1)
croyance, belief
cruauté, cruelty
cubitus, ulna
culte, worship (2)
culte des ancêtres, ancestor worship
culte du feu, fire-worship
culte phallique, phallus worship
cycle, cycle
cylindraxe, axon, axone, neurite
cylindre enregistreur (avec feuille noircie), smoked drum

D

danse de St Guy, chorea
debile simple, moron
debutant, incipient
decence, decency
décharge consécutive, after-discharge
décharge consecutive reflexe, reflex after-discharge
décharge d'influx nerveux, neural discharge, nervous discharge
declanchement, trigger action
déclic, click
décomposition, decay
decouvrir, discover
dédain, scorn
dedoublement de la personnalité, personality/dual
défaillance affective affective failure
défaut, defect, deficiency
defaut optique, defect/optical
déficience, deficiency, disability
déficience (insuffisance) mentale, deficiency/mental
déficient, defective
defumee, empyreumatic
degoût, disgust
degradation, deterioration
degré, grade
dejà vu, *see* definition
dejà vu, error of recognition (1), *also see under* pseudopresentiment
delire du toucher, *see* definition
delit, misdemeanor
démangeaison, itch
démence, dementia
dépistage, questionary
dépit, spite
déplaisir, unpleasantness
dépouillement[n], score
dépouillement des tests, test scaling
dépréciation, underestimate
déranger[v], disturbance
derme, derma, dermis
désagrégation, decay
désagrement, disagreeableness
désapprobation sociale, social disapproval
description, picture (2)
déséquilibre de convergence, imbalance/muscular
désespoir, despair
désincarné, discarnate
désir, wish
désir ardant, craving, longing
désir refoulé, repressed wish
dessein, design/purposive
dessin, drawing, design/pictorial
dessin automatique, automatic drawing
dessin en miroir, mirror-drawing
dessiner, drawing
dessin mnémonique, memory drawing
détermination par soi-même, self determination
devalorisation, underestimate
deviations des méridiens verticaux apparents, deviations of the retinal meridians

devoir, duty
dextralité, dextrality
diagramme, diagram
diapason étalon, pitch fork
diapasons désaccordes, mistuned forks
diése, sharp (3), sharp[n]
diéte, diet
dieu, god
diffamer, malign
différence juste perceptible, just noticeable difference, difference/least noticeable
différences entre les sexes, sex differences
differences sensibles, sensed differences
direction, leadership
diriger, train
discernable, discernible
dispersion, scatter
dispositif, apparatus
disque de Savart, Savart wheel
disque rotatif, color wheel
dissemblance, dissimilarity
dissentiment, dissent
dissonance, discord
distance, depth
distension papillaire, choked disk
distortion en barillet, distortion/barrel
distortion en croissant, distortion/pincushion
distraction, absent-mindedness, detraction
distribution de capacité, ability distribution
doctrine de l'action causal, causal theory
doctrine de la volonté libre, free-will doctrine
doctrine de l'influence naturelle, causal theory
don, endowment
don inné, native endowment
donnée, given
données, data[pl]
donner une notation, rate[v]
douceur, softness (2)
douleur, pain
douleur aigue, twinge
douleur en ceinture, girdle sensation
dressage, training
droite, right[n]
droitier, dextrality
droiture morale, righteousness
duperie, deception
durée de l'attention, attention/duration of
durée minimale perceptible, duration/least perceptible

E

ébauche, rudiment
ebranlement, concussion
écart étalon, deviation/standard, standard deviation, standard error
écart interquartile, interquartile range
écart médian, median deviation
ecart moyen, average deviation, deviation/mean
écart quartile, deviation/quartile, quartile deviation
échange, intercourse
échantillon, sample
échantillonnage, sampling[r] (1)
échantillonnage au hasard, random sampling
échauffement, warming up
echec, failure (1)
échelle d'âge, age-scale
échelle de Binet-Simon, Binet-Simon scale
échelle de correspondence d'individu à individu, man-to-man rating scale
échelle de dessin, drawing scale
échelle d'écriture, handwriting scale
échelle d'intelligence, intelligence scale
échelle de Kelvin, Kelvin scale
échelle de saturation, saturation scale
échelle de Stanford-Binet, Stanford-Binet scale
échelle de Yerkes-Bridges, Yerkes-Bridges scale
échelle en points, point scale
échelle mentale, scale/mental
échelle spectrale chromatique, spectral chroma scale, spectral scale
échelle T, T-scale
échelle tonale, scale/tonal
échelon d'épreuves de sévérité croissante, difficulty scale
échelon graphique d'appréciation, graphic rating scale
échelons égaux, equal steps
éclairage du champ sombre, dark-field illumination
éclairement, illumination
éclat, brightness, luminosity
écolage, schooling
école, school
école d'apprentissage, vestibule school
économie dans l'effort, economy of effort
écorce, cortex
écorce calcarine, calcarine cortex
écorce cérébelleuse, cortex cerebelli
écorce cérébrale, cortex cerebri
écorce surrenale, suprarenal cortex
écran pour la vision dans une seule direction, one way vision screen
écriture, handwriting, script, writing
écriture ataxique, ataxic writing
écriture au pied, foot-writing (foot-drawing)
écriture automatique, automatic writing
écriture buccale, mouth-writing
ecriture courante, cursive writing
écriture cursive, cursive writing
écriture d'aveugle, blind writing
écriture dextre, dextrad writing
écriture directe sur ardoise, slate-writing
écriture en miroir, mirror writing
écriture en rebus, rebus writing
écriture hiéroglyphique, hieroglyphic writing
écriture manuscrite, manuscript writing
écriture renversée, back-hand, back hand writing
écriture sénestre, sinistrad writing
éducation de redressement, remedial instruction
effet consécutif, after-effect
effet d'affaiblissement lumineux, dimming effect
effet d'auréole, halo effect
effet d'entraînement, practice effect
effluence, leakage
effort initial, initial spurt
effort terminal, end spurt
égalité, equality
egoïsme, selfishness
elan, spurt
elancement, twinge
élargissement de la tache aveugle, choked disk
élément hedonique, hedonic tone
élevage de la progeniture, bringing up
élevé, high
élimination de mouvements, dropping out of movements
éloigné, remote[a]
embarras, embarrassment
embarras de parole, impediment/speech
émousse, dull (1)
empêcher de, restrain
empiètement des groupes, overlapping of groups
empiètement des réponses, overlapping of responses
empire sur (maîtrise de) soi-même self-control
emploi, use[n] (1)

emploi d'une surpression, overblowing
empreinte, trace
enceinte[a], pregnancy
enchainement, linkage (1)
enchainement causal, causal chain
endormi[a], sleep
enfance, infancy (1, 2)
enfant, child
enfant bien doué (d'élite), superior child
enflé, tumid
engagement, commitment (2)
engendrer, breed[v]
engouement, craze
enjambement, crossing over
ennui, boredom
enquête, questionary
enseignement, schooling
ensemble structurel, pattern (2)
entendant-muet, hearing mute
entourage, environment
entraînement, training, practice[n]
entrainer, practice[v]
entre mise, meditation
épellation (langage) digitale, finger spelling
épicé, spicy
épiphénomène, epiphenomenon
épouvante, fright
épreuve, proof, test (1)
épreuve cruciale, crucial test, crucial experiment
épreuve de complètement de dessins (phrases) inachevés, completion test
épreuve de problèmes à resoudre, problem-solving
épreuve (test) de rendement, achievement test
épuisement, exhaustion
équilibre, balance
équilibre mental, balance of mind, mental balance
érotisme de la peau, skin erotism
érotisme labial, lip eroticism
erreurs d'échantillonnage, sampling/errors of
erreur de préjugé, bias/error of
erreur de temps, time error
erreur moyenne, average error
erreur probable, probable error
erreur quadratique, standard deviation, standard error
erreur spatiale, space error
erreur type, standard deviation, standard error
erreur type d'estimation, standard error of estimate
espace, space
espèce, species
esperance, hope
esprit, mind, soul (1, 3), spirit, wit
esprit collectif, collective mind
esprit social, social mind
essai, experiment
esthésiomètre à crin, hair esthesiometer (or æsthesiometer)
étage niveau, level (3)
étage supérieur du pedoncule, tegmentum (2)
étalage de soi, self-display, self-exhibition
étalement, extent
étalon, standard
étalon tonal, tonal standard
étalonnage des tests, standardization of tests
étalonner, standardize
état, condition[n] (3), state
état affectif, affect
état de conscience, state of consciousness
états crepusculaires hystériques, twilight states/hysterical
états substantifs, substantive states
étendue, extent, range, scope
éthique, ethics
étonnement, surprise, wonder
etourdissement, bewilderment, dizziness
être, being/a, soul (2)
étude, study[n]
évanouissement, faint[n], swoon
éveillé, awake[a], sharp[a] (5)
évenement, event
évenement fortuit, chance occurrence
évident par soi-même, self-evident
évocation, recall
examen des lieux, locality survey
excès de compensation, overcompensate
excitabilité, sentience
excitation, elation
excitation maniaque, mania
exemplaire, exponent (2)
exemple, instance, exponent (2)
exercer, drill
exhibitionnisme, exhibitionism
expectation, expectation
expérience, experiment
expérience d'Aristote, Aristotle's experiment
expérience de choix, choice experiment
expérience de contrôle, blank experiment
expérience de l'ombre colorée, colored shadow experiment
expérience de pesanteur, weight experiment
experience des nuages de F, cloud experiment/Fechner's
expérience des ombres de F, shadow experiment/Fechner's
expérience du picotement des poulets, pecking experiment
exposant, exponent (1)
expression de sa personnalité, self expression
extase, ecstacy, trance
extériorisation des sensations, eccentric projection
externe, outer

F

face, face
facteur de volonté, w factor, will factor
facteur d'habileté, c factor, cleverness factor
facteurs ambiants, environmental factors
facteurs communs, overlapping elements (or factors)
facultés actives, active powers
faible, faint, low (2), weak
faiblesse, faintness, helplessness
faiblesse chromatique, color-weakness
faiblesse mentale, amentia, feeblemindedness
faim, hunger
faire des investigations, investigate
faisceau, tract
faisceaux vestibulospinaux, vestibulospinal tracts
fait, fact
fantaisie, fancy (1)
fantôme, ghost
fatigue cérébrale, brain fag
fausseté, falsity
faux, falsity
faux semblant, make-believe, shamming
faux souvenir, pseudomemory
feinte, feigning, make believe, shamming
femelle, female
féminin[a], female
fenêtre de Hering, Hering window
fenêtre ovale, window/oval
fenêtre ronde, window/round
fétiche, fetish
fétide, putrid
feuillet moyen, mesoblast, mesoderm
fibre nerveuse, nerve fiber
fibrilles terminales, endbrush
fidélite, reliability (1, 2)
fierté, pride
figure de points, dot figure
figure du vase à profils humains de Rubin, Rubin's goblet-profile figure

figure et fond, figure-ground
fin, end
fixation de l'enfant à ses parents, child-parent fixation
flèche de Zeno, Zeno's arrow
flexion, flexion
flirt, flirtation
floral, flowery
flou, blur
flou hyperopique, hyperopic blur
fluctuations d'échantillonnage, fluctuations of sampling
foi, faith
folie, *see* definition
folie, lunacy
folle à deux, *see under* folie
folie à double forme, alternating psychosis
folie (idées délirantes) de la persécution, persecution/delusion of
folie du doute, *see under* folie
folie lucide, paranoia
folie morale, moral insanity
folie périodique, manic-depressive psychosis
folies de développement, developmental insanities
follicule pileux, hair-follicle
fonction reproductrice, reproductive function
fond, ground (2)
fond de l'œil, eyeground
fondement, basis, ground (1)
force, strength
force magnétique (d'aimantation), magnetic force, magnetism
forme, Gestalt, pattern (2)
formula de prédiction, prophecy formula
fort[a], strong
fortuit, causal
foule, crowd, mass (2), mob
foyer, focus
foyer d'attention, attention/focus of
franchise, frankness
frange, fringe
frayage, facilitation
frayage social, social facilitation
frayeur, fear
frein, restraint
fréquence critique de papillotement, critical flicker frequency
froid paradoxal, paradoxical cold
fuite, flight
fuite des couleurs, flight of colors
fuite des idees, flight of ideas
furieux, amuck, amok
fuseau, spindle
fuseau tendineux, tendon spindle
fuseaux musculaires, muscle spindles
fuseaux neuro-musculaires, neuromuscular spindles
fusion, blend, blending

G

gaine de Schwann, sheath of Schwann
gaine médullaire, myelin, myelin sheath
gaine myelinique, myelin, myelin sheath
galvanomètre à corde, string galvanometer
gamme, scale (2)
gamme chromatique, chromatic scale
gamme diatonique, diatonic scale
gamme mineure, minor scale
gamme pentatonique, pentatonic scale
gamme tempérée, equal tempered scale
ganglion sympathique, sympathetic ganglion
gauche, *left*, sinister
gaucherie, sinistrality
gemmation, budding
gêne, embarrassment
génie, genius
genre, genus
genre humain, man, mankind
gestion, management
glande pineale, pineal body
glandes endocrines, ductless glands
globe de l'œil, eyeball
glomérule (bâtonnet) olfactif, olfactory cell
goût, flavor, test
goût télesthétique, telesthetic taste
gouttière neurale, neural groove
gradient, gradient[n]
gradient physiologique, physiological gradient
grand calculateur, prodigy/mathematical
grandeur, magnitude
graphique, chart
graphique de z, zee (or z) chart
gratitude, gratitude
grave, deep, low (1)
gris, gray, grey
gris cortical, cortical gray
grossesse, pregnancy
groupe de vis-à-vis, group/face-to-face
groupe formé au hasard, random group
groupe sélectionné, selected group
groupe-type, sampling[n] (2)
groupes sanguins, blood groups
guérison (cure) mentale, mental healing
guerison par la foi, faith cure
guider, train

H

habilete, ability, craft (1), skill
habilete (capacite) générale, general ability
habiletes, proficiencies
habitude, habit
habitude de la lecture, reading habit
habitude motrice, motor habit
haine, hate, hatred
hallucination induite, induced hallucination
hallucinose aigue, acute hallucinosis
halo, halo
hanter, haunting
hasard[n], randomness (*see under* random[n])
hasard, chance
hauteur, pitch (2)
hauteur absolue, pitch/absolute
hauteur des lettres dans l'ecriture, graphic size
hauteur tonale, pitch (1)
hémeralopie, day blindness
herédité, inheritance (1)
herédite par l'usage, use and disuse theory use inheritance
heritage, inheritance (2)
héritage nulliplexe, nulliplex inheritance
hérité, inherited[a]
heriter, inherit
heterophorie, imbalance/muscular
hierarchie professionnelle, occupational hierarchy
heureux[a], happy (*see under* happiness)
homme de Crô-magnon, Cro-magnon man
homme de Java, Java man
honnêteté, honesty
honte, shame
horde, herd
humeur, mood
hypersensible au bleu, blue sighted
hypersensible au jaune, yellow-sighted
hypersensible au rouge, red sighted
hypothèse de la tache cérébrale, brain-spot hypothesis
hypothèse du drainage, drainage hypothesis

I

idéal du moi, ego ideal
idée, idea
idée de but, purpose

idée de finalité, purpose
idée directrice, guiding idea
idée fixe, monoideism
idée force, *see* definition
idée intentionnelle, purposive (or purpose) idea
idiot-savant, *see* definition
illegitime, spurious
illogique, unreasonable
illusion, delusion
illusion de l'âme collective, group fallacy
illusion de l'echiquier, chess board illusion
illusion de la balançoire, haunted swing illusion
illusion de la chûte d'eau, waterfall illusion
illusion de la figure en escalier, staircase illusion
illusion de la lune à l'horizon, moon illusion
illusion de soupèsement, size-weight illusion
illusion des cœurs flottants, fluttering hearts (illusion)
illusion du correcteur d'epreuves, proof-reader's illusion
ilot tonal, island/tonal
image, drawing, picture (1)
image composée, generic image, recept
image consecutive, after-image
image consecutive de Purkinje, Purkinje after image
image rétinienne, picture/retinal
images congruentes, congruent figures
imagination de renaissance, rebirth-phantasy
impensable, unthinkable
(impression d') identité, sameness
impression neuve, novel impression
impulsion, impulse, urge
impulsivete, impulsiveness
inadaptation, unfitness
inapplicable, irrelevant
inapte[a], *see under* **unfitness**
incandescence, glow
incendie par malveillance, arson
incertitude, uncertainty
inconcevable, unthinkable
inconnaissable, unknowable
inconscient, unconscious
inconsistance, discrepancy
incrédulite, disbelief
indice de refraction, refraction/index of, refractive index
indolent, listless
induction simultanee de lumière, light induction/simultaneous
inexactitude, inaccuracy
influence du contenu récent, recency/law of
influx nerveux, nerve impulse, nervous impulse
infraliminaire, subliminal
inhibition, inhibition
inné, connate inborn, native
innervation, innervation
inquiétude, restlessness
instinct, instinct (3)
instinct artistique, art impulse
instinct de mort, death instinct
instinct de vie, life instinct
instinct différé, delayed instinct
instinct du moi, ego instinct
instinct gregaire, gregariousness
instruction, schooling
insula de Reil, island of Reil
intellect, intellect
intelligent, sharp (5)
intensite sonore, sound intensity
intensionnel, intentional
intention, purpose
intentionnisme, purposivism
interne, inner
interposé, mediate
interprétation des rêves, dream interpretation
intervalle de repos, rest pause
intervalle sensible, sense distance
introvertie, shut in personality
inverser, reverse[v]
investigation relative au milieu, field investigation
investissement, cathexis
investissement objectal, object-cathexis
irritant, annoyer
isolement, seclusiveness
ivrogne, drunkard

J

jalousie, jealousy
jaune, yellow
jaune visuel, visual yellow
jeu, game, play
jeunesse, youth
joie de vivre, *see* definition
journalier, journeyman
jugement, judgment (1)
jugement subordonné, understatement
jumeau[m], **jumelle**[f], twin
jumeau dizygote, twin (1)
jumeau monozygote, twin (2)
jumeau vrai, twin (2)
juste, right[a]

L

labyrinthe, maze
la connaissance, acquaintance with
lacune tonale, gap/tonal
laid, ugly
langage (parole) automatique, automatic speaking
langue, language, tongue
langueur, languor, languour
languissant[a], *see under* **faint**[a]
la plus petite différence perceptible, difference/least noticeable
lapsus, slip of speech
larmes, tears
la sensible, leading tone
le beau, beautiful/the
le ça, id (2)
le moi, ego
l'ensemble, whole[n]
le soi, self
le soi social, social self
le super-ego, le surmoi, superego
lecture de la pensée, mind-reading
lecture de la pensee par les muscles, muscle reading
lecture sur les lèvres, lip-reading
léger, light[a]
légume, vegetable
lentille cylindrique, cylindrical lens
lentille en tore, toric lens
lentille punctale, punctal lens
lentille spherique, spherical lens
les hommes, man, mankind
lésion, injury (2)
l'humanité, mankind
liberte morale, freedom/ethical
lien, bond, linkage (2)
lien causal, causal nexus
ligne de moindre resistance, least resistance/line of
ligne de regard, sight/line of, sighting line
lignee, stirp
limaçon, cochlea
limite auditive inférieure, lowest audible tone
limite auditive supérieure, highest audible tone
limite d'entraînement, practice limit
limites d'audibilite, audibility limits
liquide céphalo-rachidien, cerebrospinal fluid, fluid/cerebrospinal
lisibilité, legibility
localisation sonore par ordination, sound ranging
loi, law
loi biogénétique, biogenetic law

loi d'association par contiguité, contiguity/law of
loi d'associations opposées, conflicting associations/law of
loi d'avantage, advantage/law of
loi d'héritage ancestral, inheritance/law of
loi de combination, combination/law of
loi de contraste, contrast/law of
loi de cosinus, cosine law
loi de dégradation, degradation/law of
loi de diminution du progrès, diminishing returns/law of
loi de fréquence, frequency/law of
loi de progression, progression/law of
loi de récence, recency/law of
loi de réciprocité, reciprocity law
loi de régression filiale, filial regression/law of
loi de répétition, frequency/law of
loi de ségregation, segregation/law of
loi de tension, tension/law of
loi de l'activité fragmentaire, piecemeal activity/law of
loi de l'effet, effect/law of
loi de l'exercise, exercise/law of
loi de l'inverse du carre, inverse square law
loi de la biogenèse, biogenesis/law of
loi de la désuétude, disuse/law of
loi de la nature, nature/law of
loi de la precision, precision/law of
loi des moindres carrés, least squares/law of
loi du parallélisme, parallel law
loi du tout et rien, all-or-none law
loi métabolique du pouls, pulse metabolism/law of
loi naturelle, natural law
lois d'acquisition (de l'apprentissage), learning/laws of
lois de cognition, thought/laws of
longueur d'onde, wave-length
longueur d'onde dominante, dominant wave-length
longueur focale, focal length
luette (du palais), uvula
luisance, lustre, luster
lumière, light[n]
lumière rétinienne, idioretinal light
lumineux, bright
luminosite, brilliance, luminosity
lutte binoculaire, binocular rivalry
lutte pour la vie, struggle for existence
lutte rétinienne, retinal rivalry

M

machine à arracher des aveux, lie detector
magie noire, black art
main, hand
maitrise, mastery
mal, evil
maladie d'Alzheimer, Alzheimer's disease
maladie de Marie, Marie's disease
maladie mentale, *mental disease*
maladie nerveuse, nervous disease, nervous disorder, neuropathy
mal à la tête, headache
malentendu[n], misunderstand
malhonnêteté, dishonesty
malveillance, malevolence
mammifères, mammalia, mammals
mandat de dépot, commitment (1)
manie ambulatoire, Wanderlust
manque, failure (2)
marche, walking
marge, range
marque de naissance, birth-mark
marteau sonore, sound hammer
masse, mass (1)
matière de rêve, dream material
matrice, uterus
mauvais, bad, evil
mauvais œil, evil eye
mécanisme d'annulation rétroactive, *undoing mechanism*
mécanisme du punition de soi-même, self-punishment mechanism
médiat, mediate
médiation, *mediation*
méduse, jellyfish
méfiance, distrust
mélancolie anxieuse, anxiety melancholia
mélange binoculaire des couleurs, color mixture/binocular
mélange de couleurs, color mixture
mélangeur de couleurs, color mixer
membrane, membrane
mémoire, remembrance, memory (1)
mémoire brute, rote learning
mémoire occasionnelle, incidental memory
mémoriser, *memorize*
mensonge[n], *see under* lying
mentalite de la foule, crowd mind
menteur constitutionnel[n,p], *see under* pathological lying
mentir, lying
méprise, misunderstand
mésadaptation, maladjustment
mésadaptation professionnelle, maladjustment/vocational
mésadaptation sociale, social maladjustment

mésencéphale, midbrain
mesoblaste, mesoblast
mesoderm, mesoderm
mesure, measure, measurement
mesures de rapport, relation/measures of
méthode d'acquisition compiète, complete learning (or memorizing) method
méthode de cas égaux et inégaux, equal and unequal cases/method of
methode de contrôle sur des jumeaux, co-twin control/method of
méthode d'economie, saving method
méthode d'évocation, recall method
methode de gradations moyennes, mean gradations/method of
méthode de l'etincelle, spark method
méthode de limites, disappearing differences/method of
méthode de polissage, moving average method
methode de reconnaissance, recognition method
méthode des cas vrais et faux, right and wrong cases/method of
méthode des couples associés, right associates/method of
méthode des differences juste perceptibles, difference/method of least (or just) *noticeable*
méthode des équidistances sensorielles, equal sense distances/method of
méthode des erreurs moyennes, average error/method of
méthode des essais et erreurs, trial and error method
methode des intervalles jugés égaux, equal-appearing intervals/method of
méthode des lectures répétées, rereading method
méthode des moindres changements, minimal change (or changes)/method of
méthode des moindres carres, least *squares/method of*
méthode des variations concomitantes, concomitant variations/method (or canon) of
méthodes globales, mass methods
méthodes psychophysiques, psychophysical methods
métier, craft (2)
milieu, *environment*
milieux réfringents, refracting media
mineur, infancy (3)
minimum indispensable, minimal (or *minimum*) essentials
mise en court-circuit, short circuiting
mise en place, setting

mise en train, warming up
mitose, mitosis
mode, fashion, style
modèle, pattern (1)
moelle, cord, medulla
moelle épinière, spinal cord
moi tribal, tribal self
mollesse, softness (1)
moment, momentum
monauriculaire, uniaural
monde externe, external world (1)
monde physique, physical world
monoidéisme, monoideism
morale, ethics
mort, death
mort simulée, death feint
en mosaïque, tesselated
motif, motive
mouches volantes, muscæ volitantes
mouvement, motion
mouvement associé, accompanying movement
mouvement relenti, slow motion
mouvements au hasard, random movements, random activities
mouvements de manege, circus movements
mouvements forcés, forced movements
mouvements inutiles, useless movements
mouvements oculaires, eye movements
moyenne, average, mean
moyenne géométrique, geometrical mean
moyenne harmonique, harmonic mean
moyens, means
muet, dumb
mûrir, mature, ripen
muscle fléchisseur, flexor muscle, flexor
muscles extrinsèques oculaires, extrinsic eye-muscles
muscles intrinsèques de l'œil, intrinsic eye-muscles
muscle-verrou, catch muscle
mutation, mutation
myélencéphale, medulla oblongata

N

naissant, incipient, nascent
narines, nostrils
nerf cubital, ulnar nerve
nerf dépresseur, depressor nerve
nerf pathétique, trochlear nerve
nerf rachidien, spinal nerve
nerf spinal, spinal nerve
nerf trijumeau, trigeminal nerve
neutralisation d'odeurs, smell compensation
nevrite, neuritis
névropathie, neuropathy
névrose, neurosis
nevrose actuel, actual neurosis
nevrose d'angoisse, anxiety neurosis
névrose de compulsion, névrose d'obsession, obsessional neurosis
névrose de transfert, neurosis/transference
névrose narcissique, neurosis/narcissistic
névrose orale, oral neurosis
nevrosique, neurotic
nez, nose
nidification, nesting
niveau, level (1, 2)
niveau d'attention, attention level, level of attention
niveau de sensation, sensation level/auditory
niveau de soutien (d'entretien), maintenance level
niveaux d'adjustement, adjustment levels
niveaux mnémoniques, memory levels
noeud, node
noir, black
nom, name
non-moi, non-ego
norme d'age, age-norm
norme de valeur scolaire, grade norm
notable, noticeable
notation, score
notation de l'épreuve, test score
notation de taux, rate score
notation objective, objective score
notation valable, true score
note, score
note brute, raw score
note centrale, midscore
note d'âge, age score
note de compréhension, comprehension score
note de précision, accuracy score
note étalonnée, standard score
note médiane, midscore
note (notation) moyenne, average score
note pondérée, weighted score
note sensible, leading tone
noter, rate
notochorde, notochord
nourrisson, (-ne), suckling (3)
noyau, nucleus
noyau caudé, caudate nucleus
noyau dentelé, dentate nucleus
nuance, hue
nuance extra-spectrale, extra-spectral hue
nystagmus céphalique, head nystagmus

O

obéissance, obedience
obligation, duty
observation de soi, observation of self, self-observation
observations éthologiques, field observations, field studies
observer, notice
obstacle à l'inceste, incest barrier
occasionnel, incidental
odeur, odor, scent
odorat, olfaction
œil, eye
œil adapté à l'obscurité, dark adapted eye
œil composé, compound eye
œil cyclopéen, cyclopean eye
œil emmétrope, emmetropic eye
œil en mosaique, mosaic eye
œuf, egg, ovum
œuvres de bien-être, welfare work
ombre acoustique, acoustic shadow
onde, wave
onde d'excitation, wave of excitation
onde sonore, sound-wave
ondes lumineuses, light waves
ondulation, undulation
opinion, opinion
optotypes, test chart, test card
ordre, order (1, 2), sequence (1)
ordre du rang, rank order
oreille, ear
oreille moyenne, middle ear
oreillette du cœur, auricle (2)
organisation du personnel, personnel management
orgue, organ (2)
orgueil, conceit
orientation lointaine dans le retour au gite, homing
orientation pédagogique, guidance/educational
orientation professionnelle, guidance/vocational
orientation spatiale, space orientation
os auriculaires, ear bones
os hyoide, hyoid bone
os temporal, temporal bone
oscillations de l'attention, attention/fluctuation of
osselet du marteau, malleus
osselets auriculaires, ossicles/auditory
ouïe, audition
ovum, egg

P

palais, palate

pâleur, pallor

palper, feel[vt]

pangène, pangen

papiers gris de Hering, Hering grays

papille optique, optic disk (or disc)

papillotement, flicker, flicker phenomenon

papillotement binoculaire, binocular flicker

parade, self-display, self-exhibition

paralysie générale, paresis

paramnésia, pseudomemory

parenté, kinship, relation

parent moyen, midparent

pariade, mating[n], mating behavior

pathonévrose, pathoneurosis

pavillon, auricle (1), pinna

peau, skin

péché, sin

pédoncule, peduncle

peine, grief, punishment

penalité, penalty

penchant, bias

pénible[a], pain

pensée, thinking, thought

pensée abstraite, abstract thought, abstract thinking

pensée à haute voix, thinking aloud

pensée analogique, analogical thinking

pensée autistique, autistic thinking

pensée constructive, constructive thinking

pensée dirigée, directed thinking

pensée sans images, imageless thought

pensée sélective, selective thinking

perçant, sharp[a] (4)

perceptible, noticeable

perception d'espace, space perception

perception (visuelle) de la profondeur, depth perception

perception (sens) de rotation, rotation perception

perception du temps, time perception

période, cycle

période d'entrainement, practice period

période moyenne, midperiod

période préliminaire, foreperiod

péristaltisme, peristalsis

perséquomètre, pursuitmeter

personnalité insuffisante (incomplète), inadequacy, inadequate personality

personnalité retirée, shut-in personality

pesanteur, gravity

petit mal, *see* definition

peur, fear

phase réfractaire, refractory period, refractory phase

phénomène d'affaiblissement chromatique, chromatic dimming phenomenon

phénomène de l'échelon, step wise phenomenon

phénomène de l'escalier, staircase phenomenon

phénomène de l'ombre colorée, colored shadow experiment

phénomène des raccourcisseurs, flexion reflex

photométrie de papillotement, flicker photometry

physionomie, physiognomy (1)

picotement, tingling

pie-mère, pia mater, pia

piliers de Corti, rods of Corti

piquant, sharp[a] (1)

pitié, pity

plaisir, agreeableness, pleasantness

plaisir-douleur, pleasure-pain

plaisir sensoriel, sensual pleasure

plaisir terminal sexual, end-pleasure/sexual

plan, scheme

planche de rotation, tilting board, tilt-board

planche de tapping, tapping board

planche rotative, rotation table

planchette d'ouija, ouija board

plaque motrice, end-plate

plexus, plexus

poids, weight

poids du cerveau, brain weight

poil, hair

pointage consécutif, past pointing

pointage de régression, scatter plot

point central, midscore

point crucial, crux

point de chaud, warm spot, warmth spot

point de douleur, pain spot

point de froid, cold spot

point de pression, pressure spot, touch spot

point de repère, cue

point de sensibilité thermique, temperature spot

point de tact, touch spot

point médian, midscore

points de repère, landmarks

points de repères occasionnels, incidental cues

polygone de fréquence, frequency polygon

pont de Wheatstone, Wheatstone bridge

populace, mob

portée, import, scope

poser, posit

potentialité, potency

pouls, pulse

pourpre, purple

pourpre rétinien, pourpre visuel, visual purple

pouvoir, power

pouvoir de conduction, conductivity

pratique, practice[n], practise[v]

précision, accuracy

predisposition, readiness, set

prédisposition mentale, mental set

predisposition nerveuse, set/neural

prédisposition organique, set/organic

pré-exercise, fore exercise

prégnance, closure

préjugé émotionnel, emotional bias

présage, omen

presbytie, presbyopia

prescience, forethought

presse, speeding up

presselle, reaction (or response) key

pressentiment, presentiment

prétendre, intend[v]

preuve tirée des circonstances par induction, circumstantial evidence

prévalence, prepotence

prevision, forethought, prognosis

prévoyance, foresight

prière, prayer

primauté, primacy

primauté génitale, genital primacy

principe de l'agréable, pleasure-principle

principe de raison suffisante, sufficient reason/law of

principe soustractif, subtractive principle

problème de l'esprit et du corps, mind-body problem

processus, process

processus constitutif, founding process

processus mentaux supérieurs, higher mental processes

prodige, prodigy

productivité, efficiency

productivité industrielle, efficiency/industrial

profil de volonté, will-profile

profond, deep

profondeur, depth

progrès, improvement, proficiency

projet, scheme

propagation de mise en jeu, recruitment

propager, breed

se proposer, intend[v]
proposition subalterne, understatement
propriete, property
provisoire, provisional
pseudomémoire, pseudomemory
psychologie, psychology
psychologie de la conduite, behavior psychology
psychologie de l'enfant, child psychology
psychologie de la foule, crowd psychology
psychologie des peuples, folk psychology
psychologie du comportement, behavior psychology
psychologie éducative, educational psychology
psychologue consultant, consulting psychologist
psychonevroses, psychoneuroses[pl]
psychophysique interne, inner psychophysics
psychose circulaire, alternating psychosis
psychose maniaque-dépressive, manic depressive psychosis
psychoses à répetition, recurrent psychoses
pudeur, shame
pugnacité, pugnacity
puissance, power
pulsion, instinct (1, 2)
pulvinar, pulvinar[n], pulvinar body
punition, punishment
punition capitale, capital punishment
pupille, pupil
pyramide du tact, touch pyramid

Q

qualité de chef, leadership
quart, fourth
questionnaire, questionary, questionnaire

R

race, breed[n]
racine, radix, root
racine médullaire, nerve root
radiation du corps noir, black body radiation
raison, ground (1)
raisonnable, rational[a] (2)
raisonné, rational[a] (3)
raisonnement abstrait, abstract reasoning
rajeunissement, rejuvenation
rampe tympanique, scala tympani
rampe vestibulaire, scala vestibuli
rancune, spite
rang, grade, rank
rangée, array, range
rapidité, speed (2)
rapidité de l'evanouissement du souvenir, rapidite de l'oubli, forgetting rate
rappel, recall, revival
se rappeler, remember
rapport, relation, attachment, ratio
rapport, *see* definition
rapport entre parent et enfant, parent-child relation
rapprochement par degrés, graded approach
rapt, rape
rate, spleen
rationnel, rational[a] (1)
rayon, ray
rayon visuel, sight/line of, sighting line
réacquisition, relearning
réactif, reagent (1)
réaction de recul, withdrawing response
reaction d'equilibre, balancing response
réaction de l'œil, eye reaction (or response)
reaction de rapprochement, approaching response
reaction de redressement, righting response
réaction de soutien, positive supporting reaction (or reflex)
reaction différée, delayed reaction
réaction galvanique de la peau, galvanic skin response (or reflex)
réalisation du desir, wish fulfillment
réapprentissage, relearning
récessivité[n], recessive
recherche, research
rechercher, investigate
reclame, advertising
récognition, recognition
recompense, reward
reconnaissance, recognition, gratitude
recrutement, recruitment
rectitude[n], *see under* right[a]
recuperation, recovery
reflexe auriculaire, pinna reflex
reflexe composé, compound reflex
réflexe conditionné, réflexe conditionnel, conditioned reflex
réflexe coordonné d'attitude, positive supporting reaction (or reflex)
reflexe croise, crossed reflex
reflexe d'agrippement, grasping reflex
réflexe d'extension en poussée, extensor thrust reflex
réflexe de deglutition, swallowing reflex
réflexe de grattage, scratch reflex
réflexe de la peau, skin reflex
reflexe de lutte, struggle reflex, struggling
réflexe de masse, mass reflex
réflexe de sursaut, starting (or startled) reflex
réflexe differé, delayed reflex
réflexe du choc sur la face antérieure de la jambe, front tap reflex
réflexe du clignement palpébral, eye-wink reflex
réflex du coude, elbow-jerk reflex
réflexe mandibulaire, jaw reflex
réflexe massétérin, jaw reflex
reflexe osseux, bone reflex
réflexe patellaire, patellar (or patellar-tendon) reflex
réflexe périosté, periosteal reflex
reflexe profond, deep reflex
réflexe psychogalvanique, galvanic skin response (or reflex)
reflexe rotulien, patellar (or patellar-tendon) reflex
reflexe squelettique, skeletal reflex
reflexes de posture, stance reflex
réflexes de redressement visuel, visual righting reflexes
reflexes oculaires toniques d'origine posturale céphalique, tonic neck-eye reflexes
réflexes toniques du cou, tonic neck reflexes
réflexes toniques oculaires d'origine labyrinthique, tonic labyrinth eye reflexes
réflexion rouge, red reflex
refoulement, repression blocking (2)
régime, diet
règle, rule
règle de Kundt, Kundt's rule
relâchement[n], se relâcher, relax
relation, relation
relation de dominance-soumission, ascendent- (or ascendant-) submissive relation
relief, relief (1)
remarquer, notice[v]
remords, remorse
rendement, achievement
rendre témoignage, witness[v]
renforcement, reinforcement
renom, fame
renversement de l'orientation, orientation/illusion of
répartition des présentations dans le temps, spaced repetition
répétition corrective, repetition compulsion
répêtition sans intervalles de repos, unspaced repetition
repos, rest
repoussant, virulent

représentation, imaging
représentation graphique, picture (1)
reproduction, copy[n]
répugnance, disgust
réseau, plexus
réseau de diffraction, diffraction grating
réserve, reserve, shyness
résidu, residuum
résidus de jour, day residues
résolution, resoluteness, resolution (1, 2)
responsable, responsible
ressemblance, similarity
ressemblance protectrice, protective resemblance, protective coloring
ressentiment, resentment
restauration, restoration
restreindre, retenir, restrain
rêve, dream
rêve clairvoyant, dream/clairvoyant
rêve d'inceste, incest dream
rêve de jour, day-dreaming
réveil, revival
revendication masculine, masculine protest
rêverie, mind wandering
reversible, reversible
rêves hermaphroditiques, hermaphroditic dreams
rêves typiques, typical dreams
rire, laughter
risible, ludicrous[n]
rite, rite
rituel, ritual
rivalité, rivalry
roseau, reed
rouge, red
rougeur, blush, blushing
rudiment, rudiment

S

sagesse, wisdom
salade de mots, word salad
salé, saline, salty
salve, volley, volley fire
sans rapport à, irrelevant
santé mentale, sanity
satisfaction, complacence
saut, mutation
sauvage, wild
saveur, flavor
savoir *vs* connaître, *see under* comprehension
schéma, pattern (2)
schème (diagramme) numérique, number form
scissiparité, fission
scissure, fissure
scissure calcarine, calcarine fissure
scissure centrale, central fissure
scissure de Sylvius, Sylvian fissure, fissure of Sylvius
scissure rolandique, Rolandic fissure, fissure of Rolando
sclérose en plaques, multiple sclerosis
sclérotique, sclerotic, sclerotic coat
secousse, concussion, contraction
section dorée, golden section
s'efforcer, strive
segmentation, cleavage
sélection, selection
sélection entre individus, individual selection
sélection génétique, reproductive selection
sélection professionnelle, selection/vocational
semence, seed
sens, meaning (1, 3)
sensation ardente, heat (2)
sensation associée, concomitant sensation
sensation consécutive, after-sensation
sensation d'effort, effort experience
sensation d'humidité, wetness sensation
sensation de chaleur, warm (or warmth) sensation
sensation de contact, touch
sensation de faiblesse, weakness sensation
sensation de froid, cold sensation
sensation de lisse, smoothness
sensation de poids, weight sensation
sensation dermique, dermal sensation
sensation de rotation, whirl sensation, whirling
sensation de rugosité, roughness
sensation de verre, glass sensation
sensation du goût, gustation
sensation générale, common sensation
sensation lumineuse, light sensation
sensation tactile, touch sensation
sens de la douleur, pain sense
sens de la pesanteur, weight sense
sens du corps, common sensation
sens du froid, cold sense
sens du temps, time sense
sensibilisation, sensitization
sensibilité, sensitiveness, sensitivity
sensibilité de pression profonde, deep pressure sensibility
sensibilité entopériphérique, entoperipheral feelings
sensibilité épipériphérique, epiperipheral feeling
sensibilité liminaire, liminal sensitivity
sensibilité pilaire, hair sensibility
sensibilité profonde, deep sensibility
sensibilité sous-cutanée, subcutaneous sensibility
sensibilité viscérale, sensitivity/visceral
sensible, sensuous
sens interne, organic sense
sensitif, sensitive
sensuel, sensual
sentiment, feeling
sentiment d'infériorité, inferiority feeling
sentiment d'irréalité, unreality/feeling of
sentiment d'obstruction mentale, blocking (3)
sentiment de culpabilité, guilt/sense of
sentiment de familiarité, familiarity feeling
sentiment de la congruence, fitness/feeling of
sentiment de l'effort mental, effort/mental
sentiment de réalité, feeling of reality, reality/feeling of
sentiment de responsabilité, responsibility/feeling (or consciousness) of
sentiment de supériorité, superiority feeling
sentiment du moi primitif (organique), conscientience
sentiment esthétique, feeling/esthetic
sentiment négatif de soi, negative self-feeling
sentiment positif de soi, positive self-feeling
sentiment sexuel, sex feeling
sentiments de passivité, passivity feelings
sentir la pesanteur, heft[v] (2)
se relâcher, relax
se réveiller, awake[v]
série, sequence (2)
se souvenir de, remember
seuil, threshold
seuil absolu, absolute threshold
seuil absolu lumineux, brilliance threshold (or limen)/absolute
seuil auditif absolu, auditory absolute threshold
seuil de conscience, threshold of consciousness
seuil de mouvement corporel, threshold for bodily motion
seuil de rotation, threshold of rotation

seuil différentiel, difference limen, difference threshold, differential threshold (or limen)

seuil différentiel d'intensité, intensity difference limen (or threshold)

seuil sensoriel, sense threshold, sensory threshold

sevrage, weaning

siège de l'esprit, seat of mind, seat of consciousness

sifflet de Galton, Galton whistle

signal avertisseur, warning signal

signal duplex, duplex marker

signes locaux, local sign, locality sign

signification, import, meaning (2, 3)

sillon, fissure

sillon de Rolando, Rolandic fissure, fissure of Rolando

simulation, feigning

simuler (une maladie), malinger

singe, monkey

sixte, sixth

soif, thirst

soins de convalescence, after care

sombre, dark

sommeil, sleep, trance

son, clang, sound, tone (1)

son composé, tone/compound

son de sommation, summation tone

son étalon, pitch/standard

sonorité du son, loudness

son résultant additionnel, summation tone

son résultant différentiel, difference tone

sophisme, fallacy

sophisme biologique, biological fallacy

sophisme des psychologues, psychologist's fallacy

sophisme historique, historical fallacy

sorcellerie, sorcery, witchcraft

souci, worry

soufflerie, pressure blower

soulagement, relief (2)

soulever, heft[v]

souleveur de poids, weights/lifting

soupçon, suspicion

soupir, sigh

sourd-muet, deaf-mute

sourire, smile

soutenu, sustained

soutiens de poids de Fechner, Fechner weight holders

souvenir, memory (2, 3), recollection

souvenir-écran, screen memory

se souvenir de, remember

spasme musculaire, twitching

spectre, ghost

stade, stage

stade agricole, agricultural stage

stade éjectif, ejective stage

stade oral, oral stage, oral libido

stade pastoral, pastoral stage

stigmate, stigma

stimulus froid, cold-stimulus

stimulus adequat, adequate stimulus

stimulus infraliminaire, subliminal stimulus

structure, Gestalt

style, style

subconscient, subconscious

subreptice, surreptitious

substance blanche, white matter

substance grise, gray matter

succion, sucking

sucré, sweet

suite, order (1), sequence (1, 2, 3)

sujet reagissant, reagent (2), reactor

supraliminaire, supraliminal

sur sour

surapprentissage, overlearning

surdetermination, overdetermination

surdité, deafness

surdite corticale, deafness/cortical

surdité de transmission, conduction deafness

surdité musicale, tone deafness

surdité nerveuse, nerve deafness

surdité psychique, *see under* psychic blindness (deafness, etc.)

surdite verbale, word-deafness

surhomme, superman

surnaturel, supernatural

surprise, surprise

surproduction, overproduction

surrénal, suprarenal

survivance des plus aptes, survival of the fittest

syllabe privée de sens, nonsense syllable

symptôme, symptom (1, 2, 3)

syndrome anxieuse, hysteria/anxiety

système cérébro-spinal, cerebrospinal system

systeme de comportement, behavior pattern

système d'ecriture, handwriting system

système de rapport, relationship system

T

table des couleurs, color circle

tableau, chart

tableau de distribution, scatter diagram

tâche, task

tache aveugle, blind spot

tache jaune, yellow spot

taches d'empreinte respiratoire, breathing spots

tact, touch

tactisme, taxis

taquinerie, teasing

tater, feel[v]

taux, rate[n]

taux de déficience auditive, hearing loss

taux de fluctuation de la main d'œuvre, turnover/labor

technique comportant connaissance prealable, procedure with knowledge

technique expérimental, procedure

tégument, tegmentum (1)

teinte foncée, shade

teinte claire, tint (1)

teintes, color shades

témoignage, testimony

témoin[ap], witness

temps, time

temps d'accommodation, accommodation time

temps d'adaptation, adaptation time

temps d'association, association time

temps de conduction, conduction time

temps de discernement, discrimination time

temps de latence réflexe, reflex time

temps de latence physiologique, physiological time

temps de perception, perception time

temps de réaction, reaction (or response) time

temps de réaction de fixation de l'œil, fixation response time

temps de retour, regression time

temps de saccade, saccadic time

temps synaptique, synapse time

temps utile, useful (serviceable) duration

tendance, tendency, trend (1, 2)

tendance à s'échapper, escape tendency

tendence innée, tendency/inherited

tendu, tense[a]

tension, strain

terminaison nerveuse, nerve ending

terminaisons nerveuses libres intraépidermiques, free nerve endings

terminaisons nerveuses papillaires de Ruffini, Ruffini capillary endings (or plumes)

terreur, fright
terreurs nocturnes, night terrors
test, test (2)
test collectif, group test
test commercial, trade test
test d'association de partie à tout, part-whole test
test d'exécution, performance test
test d'interprétation d'image, picture interpretation test
test de capacité d'appréhension de chiffres, digit-span test
test de comparaisons paires, paired associates
test de complètement de chiffres, number-completion test
test de complètement de dessins, picture-completion test
test de construction des mots, word building test
test de cubes colorés, test de dessins de Kohs, block-design test
test de la balle et du champ, ball-and-field test
test de la capacité limite d'appréhension, apprehension-span test
test de la montre, watch test
test de mémoire immédiate des chiffres, digit-span test
test de mémoire immédiate des mots, word-span test
test de mémoire immédiate des syllabes, syllable-span test
test de phrases en désordre, disarranged-sentence test
test de profil mental, profile test
test de rapidité du classement de cartes, card sorting, card-sorting test
test de séquences de chiffres, number-completion test
test des taches d'encre, ink-blot test
test de "tapping" à points, dotting test
test de volonté-tempérament, will-temperament test
test du groupe de points, spot pattern test
test (épreuve) du champ d'attention, attention-span, attention-span test
tests (épreuves) étalonnés, standard tests
tests sanguins, blood tests
théorie animiste, ghost theory
théorie d'émotion induite, induced emotion/theory of
théorie d'entraînement, practice theory
théorie de conduction membraneuse, conduction/membrane theory of
théorie de la connaissance, theory of knowledge
théorie de la forme, Gestalt theory
théorie de la matière mentale, mind stuff theory
théorie de l'âme, soul theory
théorie de la sensibilité, hedonics
théorie de l'atomisme mental, mind dust theory
théorie de l'unité à double face, double aspect theory
théorie de l'usage et de la désuétude, use and disuse theory, use inheritance
théorie des fantômes (t animiste), ghost theory
théorie du court-circuit, short circuit theory
théorie du moi et d'autrui, ego-alter theory
théorie égoïste du rêve, egoistic theory of dreams
théorie vertébrale du crâne, vertebral theory of the skull
théories de l'acquisition (de l'apprentissage), learning/theories of
théories de l'audition, hearing/theories of
théories enfantines de naissance, infantile birth theories
tierce, third (*mus*)
timbre, clang color, clang-quality, clang-tint
timidité, shyness
timidité instinctive, timidité spontanée, bashfulness
tintement, tinnitus
ton, tone (2)
ton affectif, feeling tone
tonalité affective, affective tone
tonalité chromatique, hue
tonalité de plaisir ou peine, hedonic tone
ton de battement, beat-tone
ton de combinaison, combination tone
ton grave (bas), flat[n]
ton partial (harmonique) supérieur, overtone
ton résultant, combination tone
toucher, touch
toux, cough
toxicomane, addict
trait inné, native trait
transe, trance
transfert d'apprentissage, cross education, cross-training
transfert d'entraînement, transfer of training
transmission antidromique, conduction/antidromic
transmission osseuse, bone-conduction
trauma de la naissance, birth trauma
travail, work
travail de rêve, dream work
tremblement, trembling, tremor
tremblement scriptural, writing tremor
tressaillement, thrill
triade, triad
tribu, tribe
tristesse, sadness
trompe, salpinx
trompe d'Eustache, Eustachian tube
tronc cérébral, brain stem
tronc nerveux, nerve root
trouble, disturbance
trouble propagé, disturbance/propagated
truisme, truism
tubercule cendré, tuber cinereum
tubercules quadrijumeaux, corpora quadrigemina
tumulte, disturbance
tuyau d'interférence, interference tube
tuyau d'orgue étalon, pitch pipe
tuyau sonore, pipe
type coercitif, compulsive type
types individuels dans la capacité d'apprendre, learning types

U

unité temporelle de Freeman, Freeman time unit
univoque, univocal
usage, custom, use[n] (2)
utérus, uterus
utilitarisme, utilitarianism

V

valeur, value, worth
valeur numérique en échelle, scale value
valeur sélective, selective value
vanité, conceit
vantardise, boasting
variation fortuite, chance variation
variation graduelle, gradient (1)
vaudou, voodooism
végétatif, vegetative
veille, wakefulness
veiller, wake[v]
velléité, velleity
vélocité, velocity
vengeance, revenge
vérité, truth
vérité évidente, truism
ver plat, flatworm
vert, green
vertige, dizziness
vertu, virtue
vie, life
vie mentale, mental life
vie utérine, uterine life

vif, sharp[n] (4)
visage, face
vision, sight
vision au cristal, crystal gazing, scrying
vision crépusculaire, rod vision, twilight vision
vision cristalloscopie, crystal gazing
vision monoculaire, monocular (or uniocular) vision
vision par bâtonnets, rod vision
vision recurrente, recurrent vision
vision scotopique, rod vision
vitesse, speed (1, 2)
vitesse de saccade, saccadic speed
vitesse du son, sound/velocity of
vivacité, clearness, vividness
vivre[v], live
vogue, fashion
voie, path, pathway, tract
voie d'élan, delay-path
voie pyramidale, pyramidal tract
voie supplementaire, delay-path
voie terminale, end-path
voie terminale commune, final common path
voies optiques, optic tracts
voies volitionnelles, conative channels
volonté, will
volonté générale, general will
volonté sociale, social will
voluminosité, voluminousness
vomissement, vomiting
vouloir[v], will
voussure, kurtosis
voyeurisme, scopophilia
vrai, true
vraisemblance, likelihood

Z

zéro de productivité, efficiency/zero
zéro de progrès, improvement/zero
zone marginale de la conscience, consciousness/marginal

GLOSSARY OF GERMAN TERMS

Note Where there are given in the body of the Dictionary two or more definitions of any one of the following English equivalents, the figure in parentheses after the equivalent indicates which of these dictionary definitions applies to the foreign word

A

Abart, sport (1)
abbildend, imaging
Aberglaube, superstition
abhalten, restrain
Abhangigkeit, dependence, dependency
Abklingen, *see* definition
Ablehnung, rejection
Ablenkung, distraction (1), diversion (1)
Abnahme, decrement
Abneigung, antipathy, aversion, dislike
Abreagierung, abreaction
Abscheu, repulsion
Absicht, design/purposive, intent, purpose
Absicht, *see* definition
absoluter Eindruck, absolute impression
absolutes Gehor, pitch/absolute
Absonderung, detachment, secretion (2)
Absonderungsstoff, secretion (1)
Abstand, distance (2)
Abstossung, repulsion
Abstraktion, abstraction (2)
Abtragung, extirpation
Abulie, abulia, aboulia
Abweichung, deviation, dissent
Abweichung des Lichtes, aberration of light
Achillessehnenreflex, Achilles' tendon reflex
Achsendrehung, *rotation*
Achsenfortsatz, Achsenzylinder, axon, axone
Achtung, respect^{n}
Adaptationszeit, adaptation time
adaquater Reiz, adequate stimulus
Ader, vein
Aderhaut, choroid, choroid coat
Affekt, affect, emotion
Affe-n^{pl}, monkey(s), ape(s)
After, anus
Ahnlichkeit, resemblance, similarity
Ahnung, premonition
Akkord, chord (1)
Akt, act^{n}
Aktionsstrom, action current
Aktivitat, activity
Aktpsychologie, act psychology
Akustik, acoustics (1)
akut, acute (3)
alles oder nichts Gesetz, all or-none law
allgemein, general
Allgemeinbegriff, general concept, general idea
Allgemeinheit, universality
Allgemeinvorstellung, general idea
Allmacht der Gedanken, omnipotence of thought
Allyl-Cacodylgerüche, alliaceous
Alpdrucken, nightmare
Amber-Moschusgerüche, ambrosiac
Amboss, incus
Ammonswindung, hippocampus
Amperemeter, ammeter
Amplitude, amplitude
Analerotik, anal erotism
Analphabetismus, illiteracy
Analyse, analysis
Anbetung, adoration, worship (1)
Anderung, variation (2)
Aneignung, acquisition
Anfall, attack
Anfanger, novice
Angaben, data
angeboren, congenital, connate, inborn, inherited, innate, native
angewandte Psychologie, applied psychology
Angleichung, assimilation
Angriffslust, aggressiveness
Angst, anxiety
Angsthysterie, hysteria/anxiety
Angstlichkeit, apprehensiveness
Angstneurose, anxiety neurosis
Anhaltspunkt, cue
Anhanglichkeit, attachment (2)
Anklingen, *see* definition
Anlage, disposition (2, 3, 5), predisposition (2), talent, *see also under* primordium
Anlage, *see* definition
Anlehnungstypus, anaclitic object-choice
Anmut, grace (1)
Annahme, assumption, presumption (1)
Annehmlichkeit, agreeableness, pleasantness
Anordnung, form, disposition (1), pattern (2)
Anpassung, adaptation, adjustment
Anpassungsfahigkeit, adaptability
Anregung, *see* definition
Anregung, incentive (2)
anschaulich, palpable
Anschauung, intuition (1)
Anschauung, *see* definition
Anschauungsbild, eidetic image
Anschein, appearance (2)
Ansicht, opinion
Anstand, decency
Ansteckung, infection
Anstoss, impulse
Anstrengung, effort (2)
antreiben, stimulate (3)
Antrieb, *see* definition
Anziehung, attraction
Apparat, apparatus
Apperzeption, apperception
Aquivalenz, equivalence
Arbeit, study, work
Arbeitskurve, work curve
Arger, anger
Argwohn, suspicion
aromatisch, aromatic
Art, species (2)
Assimilation, assimilation
Assoziationsfasern, association fibers
Assoziationstauschung, associative illusion
Assoziationszeit, association time
assoziative Hemmung, associative inhibition
atherisch, ethereal
Atmung, respiration/external
Attribut, attribute
Auffassung, apperception
Aufforderungscharakter, appeal, valence
Aufgabe, instruction (2), theme (1), *see also under* mental set
Aufgabe, *see* definition
Aufgaben, *see under* Ausfragemethode
Aufmerksamkeit, attention
Aufmerksamkeitsschwankung, attention/fluctuation of

Aufmerksamkeitsumfang, attention/range (or span of)
aufregen, stimulate (3)
Aufregung, excitement (1), upset
Aufrichtigkeit, frankness
Aufsatz, theme (2)
aufs Geratewohl, (at) random
Aufzahlung, enumeration
Augapfel, eyeball
Auge, eye
Augenachse, optical axis
Augenbewegungen, eye-movements
Augenblick, instant, moment (2)
Ausarbeitung, elaboration
Ausdauer, endurance
Ausdehnung, extent, extension (1)
Ausdruck, expression, term (1)
ausdrucklich, explicit
Ausdrucksbewegung, expression
Ausfragemethode, *see* definition
Ausgepragtheit, distinctness
ausgezeichnet, unique
Auslese, selection
Aussage, testimony
Aussage test, *see* definition
Aussenwelt, external world
ausserer, outer
ausserer Gehorgang, meatus/external auditory
ausserer Kniehocker, geniculate body/lateral
ausserlich, external, superficial
Äusserung, expression
auswendig lernen, memorize, rote learning
Auswertung, evaluation
Autorität, authority

B

Bahn, path, pathway
Bahnung, facilitation, reinforcement, *see also under* cross-conditioning
Balken, callosum, corpus callosum
Bande, gang
Basilarmembran, basilar membrane
Bastard, hybrid
Bau, structure
Bauch, abdomen
Bauchfell, peritoneum
Bauchreden, ventriloquism
Bauchspeicheldrüse, pancreas
Bausinn, constructiveness
beabsichtigen, intend
Beben, thrill[n]
Bedauern, regret
Bedenklichkeit, scruple
Bedeutung, meaning (2)
bedingter Reflex, conditioned reflex
Bedingung, condition[n] (1, 2)
Bedurfnis, need, want (2)
Befriedigung, gratification, satisfaction
begabt, gifted
Begabung, ability, aptitude, endowment
Begehren, desire
Begleitsumstände, circumstances
Begriff, concept
Behalten, retention
Behandlung, treatment
Beharren, persistence (1)
Beharrlichkeit, persistence (3)
Behauptung, assertion
Beispiel, instance, example
Bekanntheitsgefuhl, familiarity feeling
Bekanntschaft, acquaintance with
Bekanntsqualitat, *see* definition
Bekehrung, conversion (3)
belanglos, irrelevant
Beleuchtung, illumination
Belohnung, reward
bemerken, notice
beobachten, witness[v]
Beobachtung, observation
Beobachtungsfehler, errors of observation
berechtigt, legitimate (1)
Bereich, scope
Bereitschaft, readiness, *see also under* **Aufgabe, mental set**
Bereitschaft, *see* definition
Bericht, report
Beruf, vocation
Berufsberatung, guidance/vocational
Beruhigung, quiescence
Beruhrung, touch
Beruhrungsempfindung, contact sensation
Beschaffenheit, state
Bescheidenheit, modesty
Beschleunigung, acceleration
Beschreibung, description, *see also under* information
Beschwörung, exorcism
Besessenheit, obsession
Besetzung, cathexis
Besonnenheit, discretion
Besorgnis, anxiety
Bestandigkeit, stability (3)
Bestätigung, sanction (1), verification
bestimmen, determine
bestimmt, definite
Bestimmung, determination
Besturzung, bewilderment
Betäubung, stupor, torpor
Betragen, conduct[n] (1)
Betrug, deception
Beugung, diffraction
Beuteltiere, marsupialia, marsupials
Bevolkerung, population
Bewegung, motion
Beweis, evidence, proof
Beweisführung, demonstration
Bewunderung, admiration
Bewusstheit, awareness (3), *see also under* **Bewusstseinslage**
Bewusstheit, *see* definition
Bewusstsein, consciousness
Bewusstsein der Freiheit, freedom/consciousness of
Bewusstsein der Realität, reality/feeling of
Bewusstseinsfeld, consciousness/field of
Bewusstseinsinhalt, content of consciousness
Bewusstseinslage, attitude, mental attitude (2), mental set, *see also under* **Bewusstheit**
Bewusstseinslage, *see* definition
Bewusstseinsschwelle, threshold of consciousness
bezeichnen, signify
Bezeichnung, denotation
bezeugen, witness[v]
Beziehung, relation
bezüglich, relative[a]
Bezugsvorstellung, *see* definition
Bezugsvorstellung, *see under* **Absicht**
Bild, picture
Bilderschrift, hieroglyphic writing, pictograph, pictogram
Bildung, culture
Bisam, musk
Blaschen, vesicle
Blase, vesicle
Blasse, pallor
Blaublindheit, blue blindness
Blaugelbblindheit, blue-yellow blindness
Blickfeld, regard/field of
Blickfeld des Bewusstseins, consciousness/field of
Blicklinie, regard/line of
Blickpunkt, fixation-point, point of fixation (1, 2), regard/point of
blinder Fleck, blind spot
Blindheit, blindness
Blinzeln, blinking, winking
Blinzelreflex, wink reflex
blumig, flowery, *see also under* **balsamic**
Blutgefass, blood vessel
Blutung, hemorrhage
Bogengange, semicircular canals, semicirculars
boser Blick, evil eye
Bosheit, malice, maliciousness
Böswilligkeit, malevolence

Brandstiftung, arson
Brechmittel, emetic
Brechung, refraction
Brechungsindex, refraction/index of, refractive index
Brechungsmittel, refracting media
Brennpunkt, focus
Brennpunkt der Aufmerksamkeit, attention/focus of
Brennweite, focal length
brenzlich, empyreumatic
Bruch, disruption
Brucke, pons Varolii
Brust-, pectoral
Brust, thorax
Busse, penitence

C

Charakterzug, trait (2)
Chiasma, chiasm, optic chiasm
Cortische Bogen, arches of Corti
Cortische Pfeiler, rods of Corti
Cortisches Organ, Corti/organ of

D

Dammerungssehen, twilight vision
Dammerzustände, twilight states/hysterical
Dankbarkeit, gratitude
Darm, intestine
Darstellung, dramatization
Dasein, existence
Dauer, duration
Dauerhaftigkeit, stability (2)
Deckerinnerung, screen memory
Deckpunkte (Hering), identical points
Demut, humility
Denken, reasoning, thinking
Denkgesetze, thought/laws of
Denkvermogen, elaborative faculty
determinierende Tendenz, directive tendency, determining tendency
Deutlichkeit, distinctness
Dichtigkeit, density
Differenzierung, differentiation
Differenzton, difference tone
Differenzurteil, difference judgment
Ding, thing
Diskretion, discretion
Doppelbewusstsein, personality/dual
Doppelhandigkeit, ambidextrality
Doppelich, personality/dual
Doppelsehen, *diplopia*
doppelte Personlichkeit, personality/dual
Drang, impulsion, urge
Drehpunkt, center of rotation
Drehschwindel, vertigo
Dreiklang, triad, *see also under* chord
dressieren, train
Dressur, training
Droge, drug
Druck, pressure
Druckempfindung, pressure-sensation, *see also under* touch sensation
Druckpunkt, pressure point
Druckwage, pressure balance
Drüse, gland
Drüsen der inneren Sekretion, ductless glands
Duft, scent
duftig, fragrant
dunkel, dark
Dunkeladaptation, dark adaptation, darkness a
Dunkelauge, dark-adapted eye
Dunkelfeldbeleuchtung, dark-field illumination
Durchmesser, diameter
Durchschnitt, average
durchsichtige Flachenfarbe, transparent plane color
Durst, thirst
Durtonleiter, major scale

E

ebenmerklicher Unterschied, difference/least noticeable, just noticeable difference
Ehe, marriage
ehelich, legitimate (2)
Ehre, honor
Ehrfurcht, awe
Ehrlichkeit, honesty
Ei, egg, ovum
Eidetiker, *see* definition
eidetisch, eidetic
eidetische Anlage, eidetic disposition
Eierstock, ovary
Eifersucht, jealousy
Eigenlicht der Netzhaut, idioretinal light
Eigenliebe, egotism, self-love
Eigenschaft, attribute, property
Eignung, ability
Eignungsprufung, vocational aptitude test
einaugig, uniocular, monocular
einaugiges Sehen, monocular (or uniocular) vision
Einbildung, conceit, presumption (2)
Einbildungskraft, imagination
eindeutig, unequivocal, univocal
Eindringlichkeit, insistence
Eindruck, impression
Eindrucksmethode, impression, method of
einfach, simple
Einfallswinkel, angle of incidence
Einfuhlung, empathy
Eingeweide, viscera
Einheit, unit, unity
Einheitstypus, unitary type
Einklang, unison
einohrig, uniaural
einohriges Horen, monaural (or uniaural) hearing
Einrichtung, device
Einsicht, insight
Einstellung, *see* definition
Einstellung, attitude, mental attitude (3), mental set, *see also under* Aufgabe, Bereitschaft, directive tendency, set
Einwilligung, assent, consent
einzeln, singular (1)
einzigartig, unique
Eitelkeit, conceit, vanity
Ekel, disgust
ekelhaft, putrid
Ekstase, ecstasy, trance
Elle, ulna
Ellenbogennerv, ulnar nerve
Empfanglichkeit, sensibility (3)
Empfangnis, conception (2)
empfindend, empfindlich, sensitive[a]
Empfindlichkeit, sensibility (2), sensitiveness, sensitivity
Empfindung, sensation
Empfindungsvermögen, sensibility (1)
Empfindungszuwuchse, sensation increments
empyreumatisch, empyreumatic
endokrine Druse, endocrine, endocrine gland, ductless gland
Energie, energy (2)
Entartung, degeneracy, degeneration
Entbehrung, privation
entdecken, discover
entfernt, remote[a]
Entfernung, distance (1)
entnerven, enervate
Entsagung, resignation
Entscheidung, decision
Entschlossenheit, resoluteness
Entschluss, decision, resolution
Entstehung, genesis
Enttauschung, disappointment
entweihen, profane[v] (2)
Entwicklung, development, evolution
Entwicklungshemmung, development/arrest of
Entwicklungslehre, evolutionism

Entwicklungspsychologie, genetic psychology
Entwohnung, weaning
Entwurf, scheme
erben, inherit
Erblichkeit, heredity (2)
Erbrechen, vomiting
Erbschaft, heritage, inheritance (1)
Erdichtung, fiction (1)
Ereignis, event
Erfahrung, experience (1, 2)
Erfassung, apprehension
Erfindung, invention
Erfolg, result (1)
erforschen, investigate
Erforschung, research
Ergebnis, result (2)
Ergreifen, prehension
Erhaltung der Energie, conservation of energy
erhoht, sharp^n (3)
erhohter Ton, sharp^n (1)
Erholung, recreation
sich erinnern, remember
Erinnerung, memory (3), recall recollection, remembrance
Erkennen, recognition
Erkenntnis, cognition
Erkenntnistheorie, epistemology, theory of knowledge
Erklarung, explanation
Erlebnis, experience (3)
Erleichterung, relief (2)
Erlernungsmethode, complete learning (or memorizing) method
Ermudbarkeit, fatiguability
Ermüdung, fatigue
Ernahrung, nutrition
Ernst, gravity (1)
Erorterung, argument
Erregbarkeit, excitability
Erregung, excitement (2), excitation
Erregungs-Beruhigungsgefuhl, excitement inhibition/feeling of
Erregungszustand, exaltation
Ersatz-, substitute
Erschaffung, creation
Erscheinung, apparition, appearance (1), phenomenon
Erscheinungsweise, mode of appearance
erschlaffen, relax (1)
erschlichen, surreptitious
Erschopfung, exhaustion
Erschutterung, concussion
Ersparnismethode, saving method
erst, prime
Erwachsener, adult
Erwartung, anticipation, expectation
erworbene Eigenschaft, acquired character
erziehen, train
Erziehung, education (1), training
Es, id (2)
Etikette, etiquette
Eustachische Rohre, Eustachian tube
Examen, examination (1)
Existenz, existence
Experiment, experiment
Exponent, exponent (1)

F

Fachmann, expert
Fahigkeit, ability, capacity
falsch, spurious, false
Falschheit, falsity
Farbe, color
Farbenblindheit, color-blindness
Farbendreieck, color triangle
Farbenempfindung, color sensation
Farbenhoren, colored hearing
Farbenkreis, color circle (1)
Farbenkreisel, color wheel
Farbenlehre, chromatics
Farbenmischung, color mixture
Farbenschwache, color-weakness
Farbentafel, color circle (2)
Farbenton, Farbton, hue
farblos, achromatic (1)
Faser, fiber
Faserkreuzung, decussation
Faserschicht, fibrous layer
faul, putrid
Faxensyndrom, *see* definition
Fehler, error (1), fault
Fehlermethoden, error methods
Fehlhandlung, error (2), error/motivated
Fehlleistung, parapraxis
Feindschaft, hostility
Fernpunkt, distant point
Fernsinn, distant (or distance) sense
Fertigkeit, proficiency
feststellen, determine
Feueranbetung, Feuerverehrung, fire-worship
Figur, diagram
Fingerschlüssel, response key, reaction key
Fingersprache, finger spelling
Fixationslinie, fixation line, line of fixation
Fixationspunkt, fixation-point, point of fixation
Flache, area (1, 2), surface
Flachenfarbe, film color
Flimmergrenze, critical flicker frequency
Flimmern, flicker, flicker phenomenon
Flimmerphotometrie, flicker photometry
Flucht, flight
Flustern, whispering
Folge, sequence (3)
folgen^v, sequence (1)
Folgerung, conclusion, inference
Form, form
Formel, formula
Forschung, research
Fortsatz, process (4)
Fortschritt, progress
Fragebogen, questionary, questionnaire
Franse, fringe
freiwillig, voluntary
Freude, joy
Freundschaft, friendship
Fruchtbarkeit, fertility
fruchtig, fruity
fruher, anterior (1)
Frühreife, precocity
Fühler, Fuhlhorn, antenna
Fuhrerschaft, leadership
Fundamentalformel, fundamental formula
fundierter Inhalt, content/founded
fundierende Inhalte, *see under* complex (3)
Furche, fissure
Furcht, dread, fear
Furchtsamkeit, timidity

G

Gahnen, yawning
Galtonpfeife, Galton whistle
galvanischer Strom, galvanic current
Gang, duct
Ganzes, Ganzheit, whole^n
Ganzton, whole tone
Ganz- und Teil-Lernmethode, whole and part learning
Gattung, genus (2)
Gaumen, palate
Gaumenzapfchen, uvula
Gebarde, gesture
Gebardensprache, gesture language
Gebarmutter, uterus
Gebet, prayer
Gebrauch, use^n
gebundene Assoziation, association/controlled
Gedachtnis, memory (1)
Gedachtnisfarbe, memory color
Gedachtnisstufen, memory levels
Gedanke, thought
Gedankengang, train of thought (or of ideas)

GERMAN GLOSSARY

Gedankenlesen, mind-reading
Gedankenstrom, thinking/stream of
Gedankenubertragung, telepathy
Gedrange, crowd
Gefassnerv, vasomotor nerve
Gefasssystem, vascular system
Geflecht, plexus
Gefuhl, feeling
Gefuhl der Unwirklichkeit, unreality/feeling of
Gefuhlston, feeling tone
(das) Gegebene, given
Gegebenheiten, data
Gegebenheitsgeruch, *see under* object-odor
Gegenfarben, antagonistic colors
Gegensatz, opposition
Gegenstand, object
gegenstandlich, objective
Gegenstandsgeruch, object-odor, object-smell
Gegenstandstheorie, *see* definition
geheiligt, sacred
geheimnisvoll, mysterious
Gehen, walking
Gehirn, brain
Gehor, audition
Gehorknochelchen, ossicles/auditory
Gehorsam, obedience
Gehorsempfindung, auditory sensation
Geisselung, flagellation
Geist, mind, spirit
Geistesabwesenheit, abstraction (1), absent-mindedness
Geisteskrankheit, derangement/mental, psychosis (1)
Geistesstorung, aberration/mental
geistig, mental
gelb, yellow
gelber Fleck, macula, macula lutea, yellow spot
Gelegenheit, occasion
Gelehrigkeit, docility
Gemeinempfindung, common sensation
Gemeinempfindungen, Gemeingefuhl, common sensibility
Gemeinplatz, truism
Gemeinschaft, community
Gemeinsinn, systemic sense
Gemüt, Gemutsbewegung, *see* definition
Gemutsbewegung, affect, emotion
Gemutsruhe, repose
Gemutsstimmung, disposition (4)
Genauigkeit, accuracy, precision
Genie, genius (1)
Genitalprimat, genital primacy
geometrisches Mittel, geometric(al) mean
Gerausch, noise
Gerechtigkeit, justice (1, 2, 3), righteousness
Geruch, odor, olfaction, smell
Geruchsinn, olfaction
Gesamtbewusstsein, general consciousness
gesamte Reizlage, situation (1)
Geschaftigkeit, industry (1)
Geschehen, event
Geschichte, history
Geschicklichkeit, dexterity, skill
Geschlecht, sex
Geschlechtsgefuhl, sex feeling
geschlechtslose Zeugung, asexual reproduction
Geschlechtsreife, puberty
Geschlechtsunterschiede, sex differences
Geschlossenheit, closure
Geschmack, taste
Geschmacksempfindung, gustation
Geschmacksknospe, taste bud
Geschmackslahmung, ageusia
Geschmacksqualitaten, gustatory qualities
Geschwindigkeit, speed, velocity
geschwollen, tumid
Geselle, journeyman
Geselligkeit, sociability
Gesellschaft, society
gesellschaftlicher Wille, social will
Gesellschaftstrieb, sociality
Gesetz, law
Gesetz der Berührungsassoziation, contiguity/law of
Gesetz der Prägnanz, precision/law of
Gesetz des zureichenden Grundes, sufficient reason/law of
Gesetzeskunde, nomology
Gesicht, face, sight, vision (1)
Gesichtsachse, visual axis
Gesichtsfeld, visual field
Gesichtslinie, visual axis
Gesichtssinn, sight
Gesichtswinkel, facial angle, visual angle
gespannt, tense[a] (2)
gespiegelte Farbe, reflected color
Gesprach, conversation
Gestalt, *see* definition
Gestalt, form
Gestaltqualitat, form quality
Gestalt(s)qualitat, *see* definition
gestreifter Muskel, striate (or striped) muscle
Gewebe, tissue
Gewerbe, vocation
Gewicht, weight
Gewimmel, crowd
Gewissen, conscience
Gewissensbiss, remorse
Gewissheit, certainty
Gewohnheit, habit
Gewohnung, habituation
Gewolbe, fornix
giftig, toxic
Gitter, diffraction grating
Glanz, luster
Glasempfindung, glass sensation
Glaskorper, vitreous, vitreous body, vitreous humor, vitreum
Glatte, smoothness
glatte Kurve, smooth curve
glatter Muskel, smooth muscle
Glattheit, smoothness
Glaube, belief, faith
Glaubwurdigkeit, credibility
Gleichartigkeit, homogeneity
gleichbedeutend, identical (3)
gleichformigkeit, homogeneity, uniformity
Gleichgewicht, equilibrium
Gleichheit, equality, sameness
gleichmassige Stufen, equal steps
Gleichung, equation
Glied, term (2)
Gluck, happiness
Gluhen, glow
Gnade, grace (2)
goldener Schnitt, golden section
Gott, god
Grad, degree
Gradient, gradient
graphische Darstellung, graph
grau, gray, grey
graue Substanz, gray matter
Grausamkeit, cruelty
Grausen, terror
Greif-, greifend, prehensile
Greisenalter, senescence
Greisenhaftigkeit, senility
Grenze, limit (1), terminal sensitivity, term (3)
Grenzmethode, limits/method of
Grenzwert, limit (2)
Grimasse, grimace
Groll, spite
Grosse, magnitude
Grossenwahn, grandeur/delusions (or ideas) of, megalomania
Grosshirn, cerebrum
Grosshirnrinde, cortex cerebri
grun, green
Grund, ground (1, 2), reason[a] (1)
Grundfarbe (Mach), color/fundamental
Grundfarbe, color/primary
Grundstoff, element
Grundton, fundamental tone, fundamental
Gültigkeit, validity

Gürtel, zone
gut, good

H

Haargefass, capillary
Haarzellen, hair cells
halbbewusst, semiconscious, half conscious
Halbmesser, radius (1)
Halbton, semitone
Haltung, attitude (1), mental attitude, posture
Handhabung, management (1)
Handlung, action
Handschrift, handwriting
Handschriftendeutung, graphological portrait
Harmonium, organ (3)
Harn, urine
Harnrohre, urethra
harzig, resinous
Hass, hate
hasslich, ugly
Haufigkeitskurve, frequency curve
Hauptfarbe, color/primary
Hauptwert, central tendency
Haut, derma, dermis, skin
Hautempfindung, cutaneous sense, dermal sensation
Hautsinn, cutaneous sense
heben, heft
Hefnerkerze, Hefner candle (*see under* candle)
heftig, acute (2)
heilig, sacred
Heimkehrvermogen, homing
Held, hero
Heldensage, myth
hell, bright, light[a] (1)
Helligkeit, brightness, brilliance, luminosity
Helligkeitskontrast, brilliance contrast
Hellsichtigkeit, clairvoyance
Hemmung, inhibition
Herde, herd
Herdeninstinkt, gregariousness
Herrschaft, dominance, mastery
Herz, heart
Herzvorhof, auricle (2)
Hetzjagd, hunting
Heuchelei, hypocrisy
Hexerei, witchcraft
Hilfenmethode, prompting/method of
Hilflosigkeit, helplessness
Hilfsapparat, accessory sense apparatus
Hinterhaupt, occiput
Hinterhauptslappen, occipital lobe
Hinterhirn, hindbrain
Hirn, brain
Hirnhaut, meninges
Hirnrinde, cortex
Hirnschadel, cranium
Hirnschenkel, pedunculi cerebri
Hirntrichter, infundibulum
Hirnwindung, gyrus, gyre
Hitze, heat
hoch, high
Hode, testis, testicle
Hof, halo
Hoffnung, hope
Hohle, sinus, (brain)ventricle, *see under* ventricle
Horbläschen, vesicle/auditory
Horen, hearing
Hornhaut, cornea
Horscharfe, auditory acuity
Horscharfe(n)messer, audiometer
Huftnerv, sciatic nerve
Hühnerblindheit, night blindness
Humor, humor
Husten, cough
Hypothese, hypothesis

I

Ich, ego
Ichtrieb, ego-instinct
Ideenflucht, flight of ideas
identisch, identical
Impuls, impulse
Inbegriff, *see* definition
Indifferenzpunkt, indifference point
Inhalt, content[a]
innerer Gehorgang, meatus/internal auditory
innerer Knichocker, geniculate body/medial
innere Wahrnehmung, introspection (1)
Insel, island (of Reil)
Instinkt, instinct
Instruktion, instruction (1)
Intelligenz, intelligence
Intelligenzprüfung, intelligence test
Intensitat, intensity
Intermittenzton, intermittence tone
Intervall, interval (3)
Ironie, irony
Irradiationskreise, *see under* diffusion circle
Irrenarzt, alienist
Irrgarten, maze
irrglaubig, heterodox
Irrsinn, insanity
Isolierung, isolation
Isomorphismus, isomorphism

J

Jagd, hunting, hunting behavior
Jochbein-, zygomatic
Jochreflex, zygomatic reflex
Jucken, itch
Jugend, youth
jugendlich, juvenile
Jugend (zeit), adolescence, youth
Jünglingsalter, adolescence

K

Kalteempfindung, cold sensation
Kaltepunkt, cold spot
Kamm, crest
Kammer, (heart) ventricle, *see under* ventricle
Kammerwasser, aqueous, aqueous humor
Kampflust, pugnacity
Kampf ums Dasein, struggle for existence
Kaprylgeruch, hircine
Karriere, career
Kausalitat, causality (2)
Kehldeckel, epiglottis
Kehlkopf, larynx
Kehltonschreiber, vocal tone recorder
Keim, germ
Keimzelle, germ cell
Kenntnis, knowledge
Kennzeichen, symptom (2)
Kern, nucleus
Kernkomplex, nuclear complex
Kerze, candle
Kind, child
Kinderpsychologie, child psychology
Kindesalter, infancy
Kinematograph, cinematograph, motion picture
Kitzel, tickle
Klang, clang, tone/compound
Klangfarbe, clang-color, clang-quality, clang-tint, timbre
Klarheit, clearness, distinctness, lucidity
Kleinhirn, cerebellum
Kleinhirnrinde, cortex cerebelli
Klopflaute, raps
Klugheit, wisdom, intelligence
Kniesehnenreflex, patellar (or patellar-tendon) reflex
Knochenleitung, bone conduction
Knotenpunkt, nodal point
Koinzidenzpunkt, coincidence point
Koller, tantrum
Kombinationsmethode, *see under* combination test
Kombinationston, combination tone

Komplementärfarben, complements, complementaries, complementary colors
Komplikation, complication
Kompromissbildung, compromise-formation
konstanter Fehler, constant error
Konstanzannahme, constancy hypothesis
Kontiguität, contiguity
Kontraktion, contraction
Kontrast, contrast
Kontrollversuch, control experiment
Koordination, coordination
Kopfschmerz, Kopfweh, headache
Kopie, copy[n] (1)
Körper, body
Körperbau, physique
Körperchen, corpuscle
körperlich, corporal, somatic
Körperlichkeit, solidity
korrespondierende Netzhautpunkte, identical points
Kraft, energy (1), force, power (2)
Kraftidee, idee-force
Krampf, cramp, spasm
krampfartiger Anfall, paroxysm
krampfhaftes Zucken, tic
krankhaft, morbid
Krankheit, disease, disorder (2)
Kratzreflex, scratch reflex
Kreuz, sharp[n] (3)
Kreuzbein, sacrum
Kreuzung, crossing over, decussation
Kribbeln, tingling
Kristallsehen, crystal gazing
Kriterium, criterion
kritische Beurteilung, criticism
Kugellinse, spherical lens
Kultur, culture
Kultus, worship (2)
Kummer, grief
Kundgabe, *see* definition
Kundgabe, *see under* **description, information, significance**
Kunst, art
Kunstgenuss, artistic appreciation
Kurzschlusstheorie, short-circuit theory
Kurzsichtigkeit, myopia, near sight, near-sightedness

L

Lächeln, smile
Lachen, laughter
Lage, level (1), position, situation (3)
Lähmung, paralysis, paresis
Längen-, längs-, longitudinal
Langeweile, ennui
Langlebigkeit, longevity
Lappen, lobe
Laster, vice
Latenz, latency
Latenzzeit, latent period
laugig, alkaline
Laune, *humor*, temper
Lautgesetz, phonetic law
Lautheit, loudness
laut lesen, reading aloud
Leben, life
Lebensalter, age, chronological age
lebensfähig, viable
Lebenskraft, vitality
Lebhaftigkeit, vividness
Lederhaut, corium
Lehre, doctrine
Lehrsatz, theorem
Leib, body
leicht, light[a] (2)
Leichtgläubigkeit, credulity
leiden, suffer (1)
Leidenschaft, *passion*
leise[a]**,** low (2)
Leistung, achievement, power, performance
leiten, conduct[v]
Leitfähigkeit, conductivity
Leitton, leading tone
Leitung, conduct[n]
Leitungsbahn, path, pathway, tract
Lenden-, lumbar
Lernen, learning
Lernkurve, learning curve
Lernfähigkeit, learning capacity
Lernstoff, learning material
Lesbarkeit, *legibility*
Lesen von den Lippen, lip-reading
Leuchtfarbe, glowing color
Libidoentwicklung, libido development
Libidostauung, libido damming
Licht, light
Lichtempfindung, *light sensation*
Lichtschwelle, brilliance threshold (or limen)/absolute
Lichtwellen, light waves
Liebe, love
Liebelei, flirtation
Liebhaberei, fad
links, left
links liegend, sinister, sinistral
Linse, *lens, crystalline lens*
Lippenschlüssel, lip key
Lohn, reward
Lokalzeichen, local sign, locality sign
Lösung, solution
Lücke, discontinuity
Lückenergänzungstest, completion test
Luftleitung, air conduction
Luftröhre, trachea
Lüge[n]**,** lie
lügen, lying
Lungenmagennerv, pneumogastric nerve
Lust, pleasantness
Lustprinzip, pleasure-principle
Lust-Unlust, pleasure pain
lutschen, sucking

M

Magen, stomach
magnetische Kraft, magnetic force, magnetism
Mandel, tonsil
Mangel, defect, privation, want (1)
mangelhaft, defective
Manier, style
Manieriertheit, mannerism
Männchen, male
Mannigfaltigkeit, manifold
Mark, medulla, cord
Markscheide, myelin, myelin sheath
Mass, measure (2, 3)
Masse, mass
Massenpsychologie, crowd psychology
Massformel, metric formula
Massmethode, measurement method
Massstab, standard
Mattigkeit, languor, languour
Medullarohr, neural tube
mehrdeutig, ambiguous, equivocal
Mehrklang, chord
Mehrstimmigkeit, polyphony
Meinung, opinion
Meissnersche Körperchen, Meissner corpuscles
Meisterschaft, mastery
Melodie, tune[n], melody
Menge, mass, crowd
Menschenaffen, anthropoidea, anthropoids
Menschengeschlecht, man, mankind
Menschheit, man, mankind
merklich, noticeable
Merkmal, characteristic
Messung, measurement
Methode der Äquivalente, equivalents/method of
Methode der behaltenen Glieder, retained members/method of
Methode der Minimaländerungen, minimal change (or changes)/method of

Methode der mittleren Abstufungen, mean gradations/method of
Methode der mittleren Fehler, average error/method of
Methode der paarweisen Vergleichung, comparison/method of paired
Methode der richtigen und falschen Falle, right and wrong cases/method of
Methode der übermerklichen Unterschiede, supraliminal differences/method of
Milz, spleen
Minderwertigkeit von Organen, *see under* organ (or organic) inferiority
Minderwertigkeitsgefühl, inferiority complex
Mischung, mixture
Missbildung, malformation
Misserfolg, failure
Missklang, discord
Misstrauen, distrust
missverstehen, misunderstand
Mitempfindung, concomitant sensation
Mitgefuhl, sympathy
Mitleid, pity
mittelbar, mediate
Mittelhandknochen, metacarpal
Mittelhirn, midbrain
Mittelohr, middle ear
Mitwirkung, cooperation
Mode, fashion
Modell, copy[a] (2)
moglich, possible
Molltonleiter, minor scale
Monstrum, prodigy (2)
Moschus, musk
Motiv, incentive (1), motiv
motorisches Zentrum, motor area
mündlich, oral
Muskel, muscle
Muskelsinn, muscle (or muscular) sensation
Muskelzusammenziehung, tetanus
Muster, pattern (1)
Mut, courage
mütterliches Verhalten, maternal behavior
Mythos, myth

N

Nachahmung, imitation
Nachbild, after-image
Nachdauer, lag
Nachdenken, reflection (2)
Nachempfindung, after sensation
nachfolgen, sequence (1)
Nachhirn, myelencephalon
Nachlassen, remission
Nachtblindheit, night blindness
Nachtragen, resentment
Nachtwandeln, somnambulism
Nachwirkung, after effect
Nahrungsstoff, nutriment
Narkose, narcosis
Nase, nose
Nasenlocher, nares, nostrils
Nassempfindung, wetness sensation
Nasskälte, clamminess
Naturforschung, natural sciences
Naturgesetz, natural law
naturliche Auslese, natural selection
Naturwissenschaften, natural sciences
Nebennieren, adrenal glands
Nebenordnung, coordination
Neckerei, teasing
Neid, envy
Nerven-, nervous (1)
Nervenanfall, shock
Nervenendigung, nerve ending
Nervenendplatte, endbrush
Nervenfaser, nerve fiber
Nervenhügel, nerve ganglion
Nervenknoten, ganglion
Nervenkrankheit, neurosis
Nervenleiden, neuropathy
Nervenstrang, tract
Nervenwurzel, nerve root
nervos, nervous (3)
Netzhaut, retina
Netzhautbild, image
Netzhautgrube, fovea, fovea centralis
Netzhautschichten, retinal layers
neuer Eindruck, novel impression
Neugier, curiosity
Nicht-Ich, non-ego
Niedergeschlagenheit, dejection, depression
Nisten, nesting
Niveau, level (1)
Nivellierung, *see under* precision/law of
Normalreiz, normal stimulus
Normalstimmung, pitch/standard
normieren, standardize
Notwendigkeit, necessity
Notzucht, rape
Nullpunkt, zero, *see under* zero/developmental
Nummer, number
Nützlichkeit, utility
Nutzzeit, useful (serviceable) duration

O

Oberarmknochen, humerus
Oberfläche, surface
Oberflachenfarbe, surface color
oberflachlich, superficial
Oberton, overtone
Objekt, *see under* **Gegenstand**
Objektbesetzung, object-cathexis
Objektwahl, object choice
offenbar, evident
Offenheit, frankness
offentlich, public[a]
Ohnmacht, faint[n], swoon
Ohr, ear
Ohrenklingen, tinnitus
Ohrmuschel, auricle (1), concha, pinna
Ohrschnecke, helix
Ohrspeicheldruse, parotid gland
Ohrtrompete, Eustachian tube
Oliven des verlangerten Mark, olives, olivary bodies
optische Tauschung, optical illusion
optische Unvollkommenheit, *see under* **defect/optical**
Ordnung, order (2)
Organempfindung, common sensation, organic sensation
Organisation, structure, organization
Orgel, organ (2)
Orientierung, orientation
Ort, situation (3)
Ortsgedachtnis, locality memory
Ortsveränderung, locomotion
ovales Fenster, window/oval

P

Paarung, mating, pairing
paradoxe Kalte, paradoxical cold
paradoxe Warme, paradoxical warmth
pathologische Psychologie, abnormal psychology
Pauke, tympanum
Paukenfell, tympanic membrane
Paukenhohle, middle ear, tympanic cavity
Paukentreppe, scala tympani
Pendel, pendulum
Penisneid, penis envy
Personalismus, Personalistik, personalism
personliche Gleichung, personal equation
Pfeife, pipe
Pflicht, duty
Pfortner, pylorus
Phanomen, phenomenon
Phantasie, fancy, imagination
Phantasieren, mind wandering

Phonopsie, colored hearing
Plan, scheme
Platzangst, agoraphobia
Pobelhaufen, mob
Poltergeist, *see* definition
Prahlerei self-display, self exhibition, boasting
Prasenzzeit (Stern), present/psychological
Prazisierung, *see under* precision/law of
Prazision, precision
Prickeln, tingling
primar, primary
Primarvorgang, primary process
Primat, primacy
Prinzip, principle
Prinzipalfarbe (Aubert), color/fundamental, color/primary
Probe, proof, test
Produktionsvorgang (Benussi), founding process
Produktionsvorgang, *see* definition
profanieren, profane[v] (1)
Prognose, prognosis
Prozess, process (1, 2)
Prüfung, examination (1), test (1)
Prunken, self-display, self exhibition
Psyche, mind
Psychiatrie, psychiatry
Psychognostik, psychognosis
Psychologie, psychology
Psychopathie, psychopathy
Publikum, public
Puls, pulse
Pulsader, artery
Pulsieren, pulsation
Punkt, point
Punktfigur, dot figure
Punktschrift, Braille
Pupille, pupil
purpur, purple
Pyramidenbahn, decussation of pyramids, pyramidal tract

Q

Qualle, jellyfish
Quart, fourth (*mus*)
querlaufend, transverse

R

Rache, revenge, vengeance
Raddrehung, torsional movement, torsion, torsional rotation
Randkontrast, marginal contrast
Rang, rank
Rangordnung, rank order
Rappel, tantrum
Raserei, frenzy
Rasse, race
Rastlosigkeit, restlessness
Rauheit, roughness
Rauhigkeit, harshness
Raum, space
Raumfarbe, bulky color
Raumfehler, space error
Rauminhalt, volume
Raumschwelle, spatial threshold (or limen)
Raumstellung, space orientation
Raumwahrnehmung, space perception
Reagens, reagent (1)
Reaktion, reaction
Reaktionszeit, reaction (or response) time
Realitat, reality
Recht, right[n]
recht, right[a]
reduzieren, reduce (3)
reduziertes Auge, reduced eye
Reflexbewegung, reflex response
Regel, rule
regelmassig, regular
Regenbogenhaut, iris
Regung, impulse
reifen, mature, ripen
Reifung, maturation
Reihe, sequence (3), series
Reihenfolge, order (1)
rein, pure
Reinheit, purity
Reiz, stimulus, *see under* R
Reizbarkeit, excitability, irritability
reizen, stimulate (1, 2)
Reizhohe, terminal sensitivity
Reizmittel, stimulant
Reizschwelle, threshold (1, *a* = RL)
Reizung, stimulation
Reklame, advertisement, *see under* advertising
Rekrutierung, recruitment
relativ, relative[a]
Relief, relief (1)
Reproduktion, recall, reproduction (1)
Resonanzkasten, resonance box
Reue, penitence, regret
reziproke Grosse, reciprocal[n]
reziproke Innervation, reciprocal innervation
Reziprositatsgesetz, reciprocity law
richtig, right[a]
Richtung, direction, trend
Riechkolben, olfactory cell
Riechlappen, olfactory lobe
Riechsphare, olfactory area
Rinde, cortex
Rindengrau, cortical gray
Ritus, rite
Rohr, reed (or tube)
Rolandoscher Spalt, Rolandic fissure, fissure of Rolando
Rollung, torsional movement, torsion, torsional rotation
rot, red
rotsichtig, red-sighted
Ruckblick, retrospection
Ruckenmark, cord, spinal cord
Ruckenmark-, spinal
Ruckenmarksschwindsucht, tabes, tabes dorsalis
Ruckenstrang, notochord
Ruckenwirbel, vertebra
Ruckfall, reversion
Ruckgrats-, spinal
Ruckgrat, spine (1)
Ruckkehr, regression
Rückschlagsgesetz, filial regression/law of
Ruffinisches Korperchen, Ruffini corpuscle (or cylinder)
Ruhe, repose, rest
Ruhm, fame
rundes Fenster, window/round

S

Sachverstandiger, expert
Sackchen, saccule, sacculus
sacular, secular (1)
Saitengalvanometer, string galvanometer
salzig, saline, salty
Same, seed, semen
Sanktion, sanction (2)
Sattigung, saturation
sauer, sour
Saufer, drunkard
saugen, sucking
Saugetiere, mammalia, mammals
Saugling, suckling (3)
Schall, sound
Schallbrett, sounding board, sound board
Schallgeschwindigkeit, sound/velocity of
Schallhammer, sound hammer
Schallschlüssel, sound key, voice key
Schallstärke, sound intensity
Schallverstarkung, amplification/sound
Schallwelle, sound-wave
Scham, modesty, shame
Schamgegend, pubes
scharf, sharp[a] (1, 2, 5)
Scharfsinn, perspicacity
scharfsinnig, acute (1)
Schattierung, tint (2)

schatzen, rate[s]
Schatzung, rating[s]
Schatzungsdifferenz, Schatzungsfehler, estimation difference
Schauer, thrill[n]
Schaulust, scopophilia
Scheibe, disk, disc
Scheide, vagina
Scheidenkrampf, vaginismus
Scheidewand, septum, diaphragm
Schein, appearance (3), semblance
scheinbar, apparent
scheinbare Grösse, apparent magnitude
Scheinbewegung, apparent (motion or) movement
Scheintod, death-feigning (or feint)
Scheitel-, parietal (1)
Scheitel, vertex (1, 3)
Scheitellappen, parietal lobe
Scheitelpunkt, zenith, vertex (2)
Schenkel, femur
Schicklichkeit, decency, propriety
Schielen, strabismus
Schienbein, tibia
Schilddruse, thyroid gland, thyreoid gland, thyroid[n]
Schlaf, sleep
Schläfenbein, temporal bone
Schlafenlappen, temporal lobe
Schlaflosigkeit, insomnia, wakefulness
Schlafsucht, somnolence
Schlaftiefenmesser, *see* definition
Schlafwandeln, somnambulism
Schlag, stroke (or shock)
Schlaganfall, apoplexy
Schlagrute, divining rod
Schleife, fillet
Schleimhaut, mucous membrane
Schliessmuskel, sphincter
Schliessung, closure
Schlucken, hiccup, hiccough
Schluckreflex, swallowing reflex
Schluss, inference, conclusion
Schlussfolgerung, deduction
Schmeckbecher, taste bud
Schmerz, pain (1)
Schmerzempfindlichkeit, algesia
Schmerzlosigkeit, analgesia, analgia, analgesthesia
Schmerzpunkt, pain spot
Schmerzsinn, pain sense
Schmollen, sulkiness
Schnecke, cochlea
Schneckenkanal, scala media (cochlearis)
Schneeblindheit, snow blindness
Schnelligkeit, speed
Schnitt, section (1)
Schonheit, beauty
schopferische Synthese, creative synthesis
Schopfung, creation
Schreck, fright
Schrecken, terror
Schreibkrampf, writer's cramp
Schrift, script, writing
Schüchternheit, bashfulness, timidity
Schuldgefuhl, guilt/sense of
Schule, school
Schulerziehung, schooling
Schutzfarbung, protective coloring, protective resemblance
schwach, faint[a], weak
Schwäche, debility, faintness
Schwachsinn, dementia, feeble-mindedness
Schwangerschaft, pregnancy
Schwankungen, fluctuations
schwarz, black
Schwatzhaftigkeit, loquacity, loquaciousness
Schwebung, beat
schweigend, tacit
Schwelgerei, debauchery
Schwelle, limen, threshold
Schwerkraft, gravity (3)
Schwindel, vertigo
Schwingung, vibration
Schwingungsknoten, node
Schwingungsweite, amplitude
Schwingungszahl, vibration rate
Seele, mind, soul
Seelenblindheit, mind-blindness
Seelenblindheit, (-taubheit), psychic blindness (-deafness)
Seelenleben, mental life
Seelentheorie, soul theory
Seelenvermogen, faculty
Seelenzustand, psychosis (2)
seelisch, mental, psychic(al)
Seestern, starfish
Sehen, sight
Sehfeld, visual field
Sehgelb, visual yellow
Sehgrosse, apparent magnitude
Sehhugel, thalamus, optic thalamus
Sehne, tendon
Sehnenempfindung, tendon (or tendinous) sensation
Sehnerv, optic nerve
Sehnervenkreuzung, chiasm, optic chiasm
Sehnervenscheibe, optic disk (or disc)
Sehnsucht, longing
Sehpurpur, visual purple
Sehraum, visual space
Sehscharfe, visual acuity
sekundare Bearbeitung, elaboration/secondary
Selbst, self
Selbstanklage, self-accusation
Selbstbehauptung, self-assertion
Selbstbeherrschung, self-control
Selbstbeobachtung, introspection (2), observation of self
Selbstbestimmung, self determination
Selbstbetrug, self-deception
Selbstbewusstsein, self-consciousness
Selbsterhaltung, self-preservation
Selbsterkenntnis, self-knowledge
Selbsterniedrigung, self-abasement
Selbstlaut, vowel
Selbstsucht, selfishness, egoism
Selbsttatigkeit, self-activity
Selbstverleugnung, self-denial
selbstverstandlich, self evident
Selbstvertrauen, assurance (1)
Seufzer, sigh
Sezierung, section (2)
sichtbar, visible
Sichtbarkeit, visibility
simulieren, malinger
simultane Lichtinduktion, light induction/simultaneous
Sinn, meaning (1), sense (2)
Sinnbild, symbol
Sinnes-, sensory
Sinnesgebiet, sense/a
Sinnesorgan, sense organ
Sinnesscharfe, acuity
Sinnestauschung, illusion
sinnlich, sensory, sensual
sinnliche Lust, sensual pleasure
sinnliches Gefühl, sense feeling
sinnlose Silbe, nonsense syllable
sinnvoll[a], meaningful
Sinnwidrigkeit, absurdity
Sitte, custom
Sittenlehre, ethics
Situation, situation (2)
Sitz der Seele — des Geistes, seat of mind, seat of consciousness
sonderbar, singular
Sophisterei, sophistry
Sorge, sorrow, worry
Sozialpsychologie, social psychology
Spalt, fissure
Spannung, strain (2), tension
Spannungsempfindung, strain (4)
Spannungs-Losungsgefühl, tension-relaxation/feeling of
Speichel, saliva
Speicheldrüsen, salivary glands
Speichelreflex, salivary reflex
Sperrung, interference/psychic

spezifisches Gewicht, specific gravity
spezifische Sinnesenergien, specific energy of nerves
Sphare, area (2)
spharische Linse, spherical lens
Spiegelschrift, mirror-writing
Spiegelzeichnung, mirror-drawing
Spiel, game, play
Spindel, spindle
spiralformig, helicoid
spitz, acute (4)
Spore, spore
Sport, sport (2)
Spott, satire, scorn
Spottgedicht, satire
Sprache, language, speech
Sprachverwirrtheit, glossosynthesis
Sprodigkeit, coyness
spuken, haunt
Spur, trace
Stäbchen, rod/retinal
Stäbchensehen, rod vision
Stabchen- und Zapfenschicht, layer of rods and cones
Stabilität, stability (1)
Stamm, root (1)
Stammbaum, arbor vitae
Stammeln, stammering
stark, strong
Starke, intensity, loudness, strength
starr, rigid
Starrkrampf, tetanus
statischer Sinn, static sense
Staunen, wonder
Stechen, tingling
Steckenpferd, hobby, *see under* fad
Steigbugel, stapes
Steigung, gradient (2)
Stellung, posture, position
Stift, stylus
Stigma, stigma (1)
Stil, style
Stimmbänder, vocal cords
Stimme, voice
stimmen, tune[u]
Stimmgabel, tuning fork
Stimmlippen, vocal cords
Stimmmuskeln, vocal muscles
Stimmregion, vocal register
Stimmritze, glottis
Stimmung, mood
Stirnlappen, frontal lobe
Stoffwechsel, metabolism
Stolz, pride
Storung, disturbance
Stosston, beat-tone
Stottern, stammering, stuttering
Strafbarkeit, culpability
Strafe, punishment
straff, tense (1)
Strahl, ray
Strahlung, radiation
Streben, conation
streben, strive
Streuung, scatter
Streuungsgesetz, distributive law
Strom, current
Struktur, form, structure
Studium, study
Stufe, grade, level (3), stage
stumm, dumb
Stummheit, mutism, mutitas
stutzen, startle
Sublimierung, sublimation
Sunde, sin
süss, sweet
Sylvische Spalte, Sylvian fissure, fissure of Sylvius
Symbol, symbol
Sympathie, sympathy
Symptom, symptom (1)
Synergie, synergy

T

Tabellierung, tabulation
Tagblindheit, day-blindness
Tagesreste, day residues
Takt, beat (3), measure (1)
Taktgefuhl, tact
Talent, talent
Tanz-, dancing
Tanzmaus, dancing mouse
Tast-, tactual, tactile
Tastempfindung, touch sensation
Tast(er)zirkel, esthesiometer, æsthesiometer
Tastkorperchen, *see under* Meissner corpuscles
Tastpunkt, touch spot
Tasttauschungen, tactual (or tactile) illusions
Tatigkeit, action, activity
Tätigkeitsgefuhl, activity/feeling of
tatloser Wille, velleity
Tatsache, fact
Taubheit, deafness
Taubstumm, deaf-mute
Tauschung, illusion
Teil, part
Teilbarkeit, divisibility
teilnahmlos, listless
Teilton, partial tone, partial
Tendenz, tendency, trend
Terz, third (*mus*)
Test, test (2)
Testikel, testis, testicle
Thema, theme (3)
Theorie der bewussten Selbsttauschung, conscious illusion theory
Theorie der Gehörsempfindungen, hearing/theories of
tief, deep (2), low (1)
Tiefe, depth
Tiefenpsychologie, depth-psychology
Tiefenwahrnehmung, depth perception
Tier, animal
Tierpsychologie, animal psychology
Tinte, tint
Tod, death
Todestrieb, death instinct
Ton, tone
Tonabstand, interval (3)
Toncharakter, tonality
Tonempfindung, tone (or tonal) sensation
Tonfarbe, tone-color
tonfrei, achromatic (1)
Tonhohe, pitch
Tonika, tonic
Toninsel, tonal island
tonisch, tonic[a]
Tonleiter, scale
Tonlücke, tonal gap
Tonmesser, tonometer
Tontaubheit, tone deafness
Tourenzahler, tachometer
Tranen, tears
Transposition, transposition (2)
Trauerspiel, tragedy
Traum, dream
Traumarbeit, dream work
Traumdeutung, dream interpretation
Traumerei, reverie, revery
Traumerreger, dream instigator
Trauminhalt, dream content
Traumstoff, dream material
Traurigkeit, sadness
Treffermethode, paired associates, right associates/method of
Trennung, detachment
Treppentauschung, staircase illusion
Trieb, drive, instinct
Triebfeder, motive
Triebhandlung, impulsive action
Trinker, drunkard
Trockenheit, aridity
Trommel, tympanum
Trommelfell, tympanic membrane
Trommelhohle, tympanic cavity
Trotz, spite
Trotzen, sulkiness
Trübsal, sorrow
Trugschluss, fallacy
Tugend, virtue
Typus, type

U

übel, evil[a]
Übelkeit, nausea
Übelwollen, spite, malice
üben, practise, practice[v]
Überbleibsel, vestige
Überich, superego
Überleben, survival[n]
Überlegung, deliberation, reflection (1)
Übermensch, superman
übermenschlich, superhuman
übermerklich, supraliminal
Übermut, elation
übernatürlich, supernatural
Überproduktion, overproduction
Überraschung, surprise
Überredung, persuasion
Überrest, survival[n]
Übertragung, cross education, cross training, transference, transmission
überzeugen, convince
Überzeugung, conviction
Übung, exercise, practice
Übungsgrenze, practice limit
Übungskurve, practice curve
Übungswirkung, practice effect
Übungtheorie, practice theory
Umfang, periphery, range
Umgebung, environment, situation (3)
umkehrbar, reversible
umkehren, reverse[v]
Umkehrung, inversion
Umkreis, periphery
Umstand, condition[n] (3)
Umstellung, inversion
Unabhängigkeit, independence
unanschaulich, *see* definition
unanschauliches Denken, imageless thought
Unanständigkeit, indecency
unbestimmt, indefinite
unbewusst, unconscious
undenkbar, unthinkable
unecht, spurious
unerkennbar, unknowable
unfähig, incapable
Unfähigkeit, disability
Unfallsneurose, traumatic neurosis
Unfruchtbarkeit, sterility
Ungeeignetheit, unfitness
Ungenauigkeit, inaccuracy
ungesellig, unsociable, unsocial
Ungestaltheit, deformity
ungesund, morbid
Ungewissheit, uncertainty
Unglaube, disbelief
Ungleichheit, dissimilarity
ungültig, invalid
unlogisch, unreasonable
Unlust, disagreeableness, unpleasantness
Unmännlichkeit, effeminacy
unmerklicher Unterschied, imperceptible difference
unmittelbar, direct, immediate
unmöglich, impossible
Unordnung, disorder (1)
Unredlichkeit, dishonesty
Unrichtigkeit, falsity
Unruhe, restlessness
Unschlüssigkeit, suspense
Unsinn, nonsense
Unsterblichkeit, immortality
Untauglichkeit, unfitness
Unterbewusstsein, subconscious
Unterdrückung, suppression
Unterleib, abdomen
Unterordnung, subordination
Unterricht, education (2), instruction (1), schooling
Unterschätzung, underestimate
Unterscheidung, discrimination
Unterscheidungsreaktion, discrimination response (or reaction)
Unterscheidungsversuch, discrimination experiment
Unterscheidungszeit, discrimination time
Unterschiedsempfindlichkeit, differential sensibility
Unterschiedsschwelle, difference limen, difference threshold, differential threshold (or limen), threshold (1, *c* = DL), sense threshold sensory threshold
untersuchen, investigate
Untersuchung, examination (2)
Unterwerfung, submission, submissiveness
Unterwürfigkeit, subservience, subserviency
Untüchtigkeit, unfitness
Untugend, vice
unvernünftig, irrational, unreasonable
unverständlich, incomprehensible
Unvollständigkeit, deficiency
Unwille, resentment
unwillkürlich, involuntary
Unzufriedenheit, dissatisfaction
Ur-, primal
Urbild, prototype, type
Urfarbe, color/primal
Urin, urine
Ursache, cause
ursprünglich, primordial
Urszene, primal scene
Urteil, judgment
Urzeugung, spontaneous generation

V

Variabilität, variability
Variation, variation (1)
Veitstanz, chorea
Vene, vein
Verachtung, scorn
veränderliche Grösse, variable
veränderlicher Fehler, variable error
Veränderlichkeit, variability
Veränderung, variation (2), change
Veranlagung, disposition/neural
verantwortlich, responsible
Verbesserung, improvement
Verbindung, connection (1)
verborgen, cryptic
Verbrechen, crime
Verdacht, distrust, suspicion
Verdauung, digestion
Verdichtung, condensation
Verdoppelung, reduplication
Verdrängung, repression
Verehrung, reverence
vereinfachen, reduce (2)
Vereinigung, combination, union
vererbt, inherited
Vererbung, heredity (1), inheritance
Vererbungswissenschaft, genetics
Verfahren, procedure
Verfall, decadence
Verfolgungswahn, persecution/delusion of
Vergehen, misdemeanor
Vergesslichkeit, forgetfulness
Vergleich, comparison
vergleichende Methode, comparative method
vergleichende Psychologie, comparative psychology
Vergleichsreiz, comparison stimulus
Verhalten, behavior, behaviour conduct[n]
Verhältnis, ratio, relation
Verkehr, intercourse
Verkehrtheit, perversion (2)
Verkettung, linkage
Verknüpfung, attachment (1), colligation, synthesis
Verlagerung, displacement
verlängertes Mark, medulla oblongata
Verlegenheit, embarrassment
Verletzung, injury, lesion
verleumden, malign
Vermeidungsreaktion, avoiding response
vermindern, reduce (1)
Vermittelung, mediation
Vermögen, faculty, power (3)

Vernunft, reason[n] (2)
vernünftig, rational, reasonable
Vernunftigkeit, sensibility (4)
Verpflichtung, obligation
Verrücktheit, amentia
Verschiebung, displacement
Verschiedenartigkeit, heterogeneity
Verschiedenheit, variety
Verschlechterung, perversion (1)
Verschlimmerung, deterioration
Verschmelzung, blending, fusion
Verschwendung, dissipation
Versetzung, transposition (1)
Versicherung, assurance (2)
Versprechen, slip of speech (or of the tongue)
Verstand, intellect, understanding
verständig, reasonable
Verständnis, comprehension (1)
Verstehen, intuition (2)
Verstellung, dissimulation, simulation, perversion (3)
Verstümmelung, mutilation
Versuch, experiment
Versuch der farbigen Schatten, colored shadow experiment
Versuchsleiter (Vl), experimenter
Versuchsperson (Vp), observer, reagent (2), subject (2)
Versuchung, temptation
Verteilung, distribution
Vertiefung (Herbart), absorption
Vertreter, exponent (2)
Verwaltung, management (2)
Verwandtenehe, endogamy
Verwandtschaft, kinship
Verwechselung, confusion (1)
Verwerfung, rejection
Verworrenheit, confusion (3)
Verzierung, decoration
Verzuckung, trance
Verzweiflung, despair
Vexierversuch, blank experiment
Vierhügel, quadrigemina, corpora quadrigemina
Visierlinie, sight/line of, sighting line
Vokal, vowel
Vokalität, vocality
Völkerpsychologie, folk psychology, social psychology
Volkskunde, folklore
Volksstamm, tribe
Vorahnung, premonition, presentiment
Voraussetzung, premise, premiss
Voraussicht, foresight
Vorbeizeigen, past pointing
Vorbereitung, preparation
(das) Vorbewusste, preconscious
Vorder-, anterior (2)
Vorderhirn, forebrain
Vorgang, process (1, 2)
Vorhersagung, prediction
Vorherrschen, prepotence
Vorhof, vestibule
Vorhofstreppe, scala vestibuli
vorläufig, provisional
Vorlust, forepleasure
vormachen[v], make-believe
Vorperiode, foreperiod
Vorrang, primacy
Vorrichtung, apparatus
Vorsatz, purpose
vorstellen, *see under* Vorstellung
Vorstellung, idea, presentation, representation, *see also* definition
Vorstellungsinhalt, *see under* Vorstellung
Vorübung, preparation
Vorurteil, prejudice
Vorzeichen, omen
Vorzwickel, quadrate lobe

W

wachen, wake
Wachsamkeit, wakefulness
Wachsen, growth (1)
Wachstum, growth (2)
Wahl, choice, selection
Wahnidee, delusion
Wahnsinn, insanity, mania
Wahnvorstellung, delusion
wahr, true
wahrhaftig, veridical
Wahrheit, truth
Wahrnehmung, perception
Wahrnehmungsinhalt, percept
wahrscheinlicher Fehler, probable error
Wahrscheinlichkeit, likelihood, probability
Wanderlust, *see* definition
Wärmeempfindung, warm (or warmth) sensation
Wärmepunkt, warm spot, warmth spot
Warnungszeichen, warning signal
Wasserkopf, hydrocephalus, hydrocephaly
Wechselwirkung, interaction
Weibchen, female
Weichheit, softness (1)
Weise, tune[n]
Weisheit, wisdom
weiss, white
Weitsichtigkeit, far-sight, presbyopia
Welle, wave
Wellenbewegung, undulation
Wellenlänge, wave-length
Weltanschauung, world view, *see also under* ideology
weltlich, secular (2)
Wert, worth, value
Wesen, being/a
Wesenheit, entity
Wetteifer, emulation, rivalry
Wettstreit der Sehfelder, retinal rivalry
Widerhall, echo, reverberation
Widerlegung, refutation
Widerspruch, contradiction
Widerspruchsfreiheit, self-consistency
Widerstand, resistance
Widerstandsempfindung, resistance /sensation of
Widerwille, repugnance
Wiederbelebung, revival
Wiedererkennung, recognition
Wiederherstellung, reconstruction, restoration
Wiederhervorbringung, regeneration, reproduction (3)
Wiederholung, reproduction (1, 2)
Wiederholungszwang, repetition compulsion
wiederkehrend, recurrent
Wiederlesungsmethode, rereading method
wild, wild
Wille, will
Willenschwache, abulia, aboulia
Willensfreiheitslehre, free will doctrine
Willenshandlung, volition
Willenslosigkeit, abulia, aboulia
Willensvorgang, volition
Willkurhandlung, voluntary activity
willkürlich, voluntary
Windung, convolution
Winterschlaf, hibernation
Wirbelknochen, vertebra
Wirbellose, invertebrata, invertebrates
Wirbeltiere, vertebrata, vertebrates
wirklich, actual, real
Wirkung, action, effect
Wirkungsgrad, efficiency
Wirkungsvermögen, potency
Wirtschaft, industry (2)
Wirtschaftspsychologie, industrial psychology
Wissen, knowledge
wissen *vs* **kennen**, *see under* **comprehension**
Wissenschaft, science
Witz, wit
Wohlanständigkeit, decorum
Wohlsein, well being
Wollust, lust

Wortsalat, verbigeration, *see also under* word salad

Wortschwall, verbiage

Worttaubheit, word-deafness

Wunder, miracle, prodigy (1)

Wundmal, stigma (2)

Wundtsches Schallpendel, Wundt sound pendulum

Wunsch, desire, wish

Wünschelrute, divining rod

Wurm, vermis

Wurzel, root (2, 3)

würzig, spicy

Wut, anger, rage

Wutanfall, furor, tantrum

Z

Zähigkeit, viscosity

Zähmung, taming

Zapfen, cone/retinal

Zauberei, sorcery

Zeichen, sign

Zeichnung, drawing, design/pictorial

Zeigefinger, index (4)

Zeigelust, exhibitionism

Zeit, time

Zeitanschauung, time perception

Zeitfehler, time error

Zeitlage, time order

zeitlich, temporal

zeitliche Reihe, sequence (2)

Zeitlupe, slow motion (picture)

Zeitmesskunst, chronometry

Zeitsinn, time sense

Zeitvertreib, diversion (2)

Zeitwahrnehmung, time perception

Zelle, cell

Zensur, censorship

Zentralfurche, Rolandic fissure fissure of Rolando

Zentralwert, median

Zentralwindung, central fissure

zentrifugal, efferent

zentripetal, afferent

Zerbrechung, disruption

Zerkauen, mastication

Zerstörungswut, vandalism

sich zerstreuen, relax

Zerstreutheit, distraction (2)

Zerstreuung, dispersion

Zerstreuungskreis, diffusion circle (2)

zeugen, witness

Zeugnis, testimony

Zeugung, generation

Ziel, aim, end (2), goal

Zielvorstellung, *see* definition

Zielvorstellung, end, purposive idea, *see also under* Absicht

Zirbeldrüse, pineal body

zirkulares Irresein, alternating psychosis

Zittern, trembling, tremor

Zöllnersche Täuschung, Zöllner illusion

Zone, zone

Zorn, anger

Zucht, discipline

Zuckung, convulsion, twitching

Zufall, chance, hazard

zufällig, accidental, casual, incidental, random

zulassen, suffer (2)

Zuneigung, liking

Zunge, reed, tongue

Zungenbein, hyoid bone

Zurechnungsfähigkeit, competency, competence (2)

zurückhalten, restrain

Zurückhaltung, reserve, restraint

Zurückstrahlung, reflection (3)

Zurückweisung, rejection

Zurückziehen, retraction

zusammengesetzt, composite

Zusammenhang, connection (2)

Zusammenklang, concord

Zusammenwirken, synergy

Zusammenziehung, contraction

Zustand, level (2), state

Zustimmung, assent, consent

Zuverlässigkeit, reliability

Zwang, compulsion, restraint

Zwangsneurose, obsessional neurosis

Zweck, purpose

zweideutig, equivocal

Zweifel, doubt

zweifelhaft, problematic

Zweiklang, *see under* chord

Zweiteilung, dichotomy

Zwerchfell, diaphragm

Zwicken, twinge

Zwilling, twin

zwingen, constrain

Zwischenhirn, diencephalon

Zwischenraum, interval (2).

Zwischenton, intertone

Zwischenzeit, interval (1)

Zwitterbildung, hermaphroditism

Zwölffingerdarm, duodenum

Zyklopenauge, cyclopean eye

Zylinderlinse, cylindrical lens